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WOMAN:

HER

DISEASES AND THEIR TREATMENT

BY

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TO THE

ECLECTIC MEDICAL PROFESSION

OF THE UNITED STATES,

THIS WORK

IS

RESPECTFULLY INSCRIBED,

BY

THE AUTHOR.

PREFACE.

THE present work was undertaken by the author only at the repeated and urgent solicitations of those students who have listened to his lectures for the past six or seven years; and, of those practitioners who have expressed themselves as having long experienced the want of a reliable work, from the School of Medicine to which the author belongs, upon the peculiar maladies to which Females in this country are subject, and which, from various causes, appear to be on the increase.

In the composition of the work, several objects have been held in view, viz:—to give a thorough account of the history, symptoms, &c., of the various diseases referred to, in as condensed a manner as possible, so as to retain it within certain limits, and place it at a price within the reach of everybody; to state fully the treatment pursued in these affections by the most successful practitioners, as well as that which the author adopts in his own practice,—and to accomplish this end, in addition to his own views, the most reputable authorities have been carefully examined; and to so arrange the work that while it may prove useful to the practitioner, its pages may also be consulted with advantage by every intelligent female in the land.

There are certain conditions and maladies incident to the pregnant and parturient female, which belong, more especially, to the department of Obstetrics, and not to that of the ordinary diseases of the sex; as these affections have already been treated upon in the author's work on Obstetrics, and not desiring to unnecessarily increase the size of the present volume, they have, more particularly for the benefit of medical men who may desire to learn the writer's views relative thereto, been merely referred to, stating the page upon which they may be found in said Obstetrical work.

For the purpose of convenience and ready reference, it was deemed best to divide the work into five parts:—

Part I., includes the description of the External Organs, their diseases and treatment.

Part II., contains a description of the Internal Organs, their diseases and treatment; and in which will be found an extended explanation of the author's treatment of those common maladies, Leucorrhea and Prolapsus Uteri, as well as of the principles and practice of the so-called "Motorpathy," a knowledge of which has been, heretofore, hardly permitted to become the common property of the profession.

Part III., comprises the description and treatment of Functional Diseases, including all menstrual derangements, together with a reference to the peculiar and distressing malady more commonly known as "Nursing Sore Mouth."

Part IV., is devoted to a brief description of the Female Breast, its diseases and their treatment.

Part V., describes the composition of most of the remedial compounds which have been recommended throughout the volume.

Following Pharmacy is a Glossary explaining the technical terms used in the work, and which is more especially designed for the benefit of those non-professional persons who may favor these pages with a perusal.

The Index will be found complete.

It is hoped that the arrangement of the work, and its brevity, notwithstanding the deficiencies which may exist, and of which the writer is fully aware, will be suited to the demands of the profession and the public, and that an acquaintance with the contents of its pages, may be the means of relieving much suffering and distress among females.

The author acknowledges his indebtedness to the various distinguished authorities of the day, as Churchill, Brown, West, Ashwell, Rokitansky, Tyler Smith, Todd and Bowman, &c., also to Dr. J. Marion Sims, of New York city, whose surgical improvements in some of the accidents to which females are liable, have rendered him justly eminent. He is likewise under many obligations to his colleagues, Prof. A. J. Howe, from whose forthcoming work on Surgery he has been permitted to make several extracts,—and Prof. C. H. Cleaveland, to whom he is indebted for the entire article on Cancer of the Breast.

J. K.

WOMEN:

Their Diseases and their Treatment.

INTRODUCTORY REMARKS.

Hygiene—Exercise—Cleanliness—Clothing—Air—Early Marriage—Sexual Abuses.

The structure of the human female differs considerably from that of the male, in consequence of which we observe certain functions, which belong exclusively to the female sex, as menstruation, child-bearing, and lactation. These peculiar functions and differences of organization, being subject to derangements and diseased conditions, give rise to a class of maladies not met with among males, and which require a separate and especial notice. However, before entering upon an examination of the Diseases of Females, it may be proper to make a few brief remarks concerning the Hygiene of women.

Without a strict attention to the laws of the animal economy, females cannot expect to make *healthy women*, *healthy wives*, *healthy mothers;* and unless these be healthy, we cannot expect *healthy offspring*. The female who neglects the hygienic rules, or who enfeebles the powers of her system, by a course of thoughtlessness and misgovernment, or by pursuing a fashionable routine of dissipation, will make only an invalid, sterile wife, or, should she unfortunately give birth to offspring, they will be of delicate, sickly constitutions, seldom attaining adult age. There is no doubt but the decay of once great nations was as much owing to the condition of their women as to any

other cause—prosperity and wealth begetting ease, luxury, and refined dissipation,—these, in their turn, begetting enfeebled, exhausted, and diseased constitutions, from which follow, as a necessary natural result, both physical and mental imbecility of offspring, which are well calculated to destroy families, races, and nations.

In order, therefore, to secure and retain a state of health through life, it is absolutely necessary that hygienic attentions should commence during childhood, and this is more especially necessary with girls than with boys, in consequence of those peculiar sexual changes which occur at the ages of from twelve to fifteen years, in the former. One of the most important means to preserve health among females, to strengthen and invigorate the reproductive organs, as well, indeed, as the whole system throughout, is *exercise.* Instead of confining girls in awkward positions in parlors or nurseries, or fatiguing their minds and bodies in school with long, difficult lessons, and in unnatural and irksome attitudes, let them have the advantages of air and exercise; walking, dancing, running, riding, jumping rope, trundling a hoop, and hallooing as loud and as long as they please. In fact, during childhood, there is no reason why girls should not follow the same class of exercises that boys enjoy. Calisthenic exercises will be found very advantageous to females after menstruation has appeared. School girls in cities, should at least once a week in warm seasons, be made to walk a few miles from the city, and ramble over the hills in its vicinity in the pursuit of botanical, mineralogical, or other specimens—for to be truly useful, exercise should be combined with mental amusement. And some kind of exercise should be pursued daily at stated periods during school hours.

Men hate to have sickly wives, sickly children—they grumble exceedingly when the physician's bill is presented, and yet when their wives or daughters walk the streets to become refreshed by air and moderate exercise, instead of encouraging them in so doing they frown upon it, and call it "gadding," or "spinning street yarn." Or, should a physician, among other things, prescribe exercise, the reply is, that the wife or daughter has plenty of it, as she does all the cleaning, wash-

ing, and domestic matters of the family,—forgetting that this is not exercise, but labor, and hard labor at that.

An attention to the *clothing* is another point to which considerable attention should be bestowed. This should be adapted to the season, being neither too heavy and warm, nor too flimsy and cool. And especially should tight dressing or lacing be avoided. In order to be graceful in their movements, the muscles of the body must be unrestrained in their action. Any muscle, when subjected to constant compression, soon diminishes in size, loses its plumpness, and becomes enfeebled and unhealthy. When the muscles of the body around the waist are compressed by tight dresses, not only do the parts become shrivelled and emaciated, losing their original roundness and healthy condition, but the blood is retarded in its circulation, is not freely supplied to all parts of the body, and as a consequence of this obstruction, disease must inevitably ensue at a sooner or later period. The healthy, vigorous girl, with the muscles free, can run, walk, jump, or assume whatever attitude she prefers, bending forward, inclining to either side, or standing erect—while those whose muscles are cramped by compression can only move the body in one or two directions, accomplishing the feat with an awkward stiffness, and an appearance of suffering.

The mode of dressing among females undoubtedly contributes to many of their diseases—I speak more particularly with reference to the custom of fastening most of their articles of dress around the waist. It is at this point where a constant and undue pressure is exerted upon the muscles and internal organs, either by a direct tight fastening, or in consequence of the weight of the "underclothes"—for I have known young ladies, who, though their fastenings around the waist were by no means too tight, yet had all the disadvantages arising from tight ligation, by the constant weight of from twelve to fourteen heavy skirts. The unnatural warmth maintained by these, the constant compression kept up on the stomach, liver, and spleen, the dragging of the muscles of the abdomen downward, as well as of the intestines themselves, tend to produce diseased stomach and liver, debility of the abdominal muscles,

falling of the womb, and many other maladies of the reproductive organs. But so long as man pretends to admire a wasp-like waist, an enormous rotundity of hips, and a pale, sickly complexion, so long will woman destroy herself to please him, unless she be better and more correctly educated than ordinarily. She dresses to please him, not to promote health—and though he may profess to admire the effects of her violation of nature's laws, he invariably despises and ridicules the means by which these are accomplished. And this will always be the case until women rely more upon themselves, and less upon the whims and absurdities of sensual men.

The custom of dressing young girls in short dresses is one very pernicious to their morals, as it is an education of the animal before the mental; they observe men gazing at their limbs, they frequently overhear their remarks relative thereto, inquiries are made among each other to know what all this means, sensual ideas are soon developed, and pure morality is forever destroyed. And yet how little do parents dream of such results!

The foolish pride which some females have of "feet admiration," having been taught that small feet and ancles are much admired by the opposite sex, induces them to clad their feet thinly during unseasonable weather, without the least regard to health or consistency. As a necessary consequence, disease, and frequently of a fatal character, is the penalty of such folly. Many very serious maladies among females may be traced to careless clothing of the feet, and more especially, when this occurs during the menstrual period. In fine, warm weather, no objection can be made to a neat and delicate arrangement of the feet habiliments among the healthy; but in damp weather, and in cold seasons, these organs should be kept dry and warm; health should always be considered before beauty, and without the former the latter will soon fade.

The inhalation of *pure air* is as necessary for females as for males; and it will therefore be advantageous for them to walk or ride out daily, whenever the weather will permit. Too much confinement in the house, whether in the nursery or culinary department, will eventually destroy the most robust constitu

tion. And when an exposure to pure air is accompanied with moderate exercise, the system at once feels their invigorating influences.

Cleanliness of person is a most important item to the female. Between the skin and the internal organs of the body there is an intimate sympathy, so that whenever the functions of the former are deranged or obstructed, the latter are certain to suffer in proportion. Beside which, the skin is designed to eliminate from the system a large amount of the decomposed and useless matter of the body, a retention of which always gives rise to disease. Hence, the necessity of keeping the surface of the body in a clean condition; not merely to remove dirt from parts constantly exposed to view, but from the whole person. The face, neck, limbs, feet, and whole body, as well as the genital parts, should be bathed at least as often as twice a week, with soap and water, and in drying the limbs and body a coarse towel should be applied with brisk friction, so as to produce an agreeable glow upon the surface. In order to prevent "taking a cold" from the evaporation of the water chilling the surface and contracting the pores of the skin, it will be the better plan to bathe one limb at a time and then dry it, then one side of the body, followed by the other, and so on. Married females should likewise, in addition to the above, make frequent use of vaginal injections of cold water, with or without the addition of Castile soap, from which they will derive much benefit, and which will prevent or relieve unpleasant symptoms arising from a relaxed or diseased state of these parts.

As singular as it may appear in this enlightened age, there are many females, otherwise well educated, who seldom or never bathe their bodies, and who look with suspicion upon those who do, especially if, at the same time, vaginal injections are used; they cannot conceive that any others than those laboring under some filthy disease would require these necessary measures for health and personal comfort. Should any such peruse these pages, it is to be hoped they will divest themselves of such erroneous impressions, and secure the advantages to be derived by pursuing the course here recommended.

It may be proper to observe that the hip-bath should never be made use of by females, except when prescribed by a physician; hip-baths, whether of warm or cold water, when employed daily by healthy persons, are very apt to cause such a condition of the parts as will eventuate in leucorrhea, relaxation of the vaginal walls, &c.

The best cosmetic that one can use is fresh water, it removes all impure matters from the surface, promotes the circulation in the capillary vessels, and thereby aids in maintaining the functions of the skin, from which results a vigorous and active condition of the system, a general sense of health and comfort, a suppleness and brilliancy of the skin, which can be obtained by no other agent, and a protection against many diseases of the skin. While on the other hand, the various cosmetics, lotions, &c., of the day, derange the functions of the skin by checking perspiration, rendering it harsh, coarse, unhealthy, and subject to premature wrinkles as well as pimples or other diseased conditions; and not unfrequently the articles entering into the composition of some of them, as mercury, antimony, arsenic, lead, &c, are of such an injurious character as to produce palsy, neuralgic pains, diseased eyes, and other painful and serious disorders.

For a more detailed examination of these subjects, as well as for a knowledge of the hygienic rules relative to diet, sleep, an attention to the bowels, kidneys, &c., the reader is referred to the author's "American Family Physician, or Domestic Guide to Health;" the rules therein laid down will be found, in general, applicable to both sexes.

Many of the maladies to which females are subject, are frequently occasioned by a *too early marriage.* The health and happiness of parents, as well as of their offspring, is promoted or retarded, according to the conditions which are present when parties are united in wedlock. If the female be too young, the system not having completed its development and become fitted for the proper fulfilment of the new and important functions which are called into action by a married life, not only will the offspring be diseased or of imperfect constitutions, but the precocious mother will soon be robbed of all her

freshness and charms, her beauty will rapidly fade, she will become prematurely old, and will be certain to suffer from one or more of those painful and harassing diseases peculiar to the sex. A French writer, Lachaise, remarks:—"If the indispensable processes of nature, occupied with the completion of its organization, are broken in upon by the premature enjoyments of marriage, the female will be exposed to a thousand risks in her new position. Become pregnant, she will be unable to support, without the greatest difficulty, and at the expense of her health, the innumerable and unavoidable inconveniences of that condition; she will be liable to abortions and floodings, and the pangs of childbirth may probably cost her her life. Become the mother of delicate and sickly children, she will pass her youth in uneasiness and tears; give to the offspring of her love an impoverished milk; yield herself, in order to rear them, to cares and watchings beyond her strength; hasten for them the approach of old age, and tear herself, perhaps, from life at a period when she is ordinarily strongest and most active."

The *proper age* at which females should marry is between the nineteenth and twenty-first years, in temperate climates, and, perhaps, a year or two earlier among the inhabitants of very warm climates; at these ages the body has received its proper growth and vigor, and is capable of sustaining all those changes which a woman undergoes as a wife and as a mother. It has been said that the most effectual method of checking the ardent desires of young girls during the first years of menstruation, is for them to marry; but it must be remembered that in nine cases out of ten these desires are unnatural, and are artificially produced by the circumstances surrounding them, as a deficient or improper education, unhealthy associations, the reading of impure novels, vicious companions, and some of the prevailing customs of society which tend to cultivate the animal and sensual, rather than the mental. And in such cases, a recourse to a cooling diet and regimen, with a change of circumstances, will effect more permanent advantage than a premature marriage.

Again, the presence of menstruation has been looked upon, and correctly too, as a general rule, as indicative of the ma-

turity of the female, and her capability of safely bearing children, and it has been presented as a safe course, to permit at least two years to pass from the commencement of menstruation before entering into matrimony. Ordinarily this course may be advantageously followed, that is, in those cases where the catamenial flow commences at the usual age. But it sometimes happens that we meet with cases of *precocious menstruation*, that is, occurring at the ages of eight, ten, or twelve years —the reproductive organs developing themselves at the expense of other organs fully as important to health and longevity; marriage entered into under such circumstances will certainly be followed by the most disastrous and fatal results. One great cause why the females of our own country fade and "break down," so much earlier than the European, is their entering into matrimony at an early age, before the system has become properly matured, and which also gives rise to puny and delicate offspring, both mentally and physically.

The female who *delays marriage* until a later period than that advised heretofore, will be subject to many inconveniences, the principal of which are confined to the processes of labor, the sufferings and dangers of which are apt to be augmented. But she will not be so liable to premature decay of the system, nor to the diseases incident to her sex, as those who enter into wedlock at too early an age.

There are females who should *never* enter into the married state, if they would desire to be happy, and free from both physical and mental wretchedness—as, for instance, delicate and feeble persons, or such as have some deformity of body, and those laboring under or disposed to scrofula, convulsive diseases, cancer, consumption, deformed pelvis, some diseases of the womb, &c. Some of these maladies would be a certain cause of death in case marriage were succeeded by pregnancy; while the others, being necessarily followed by more or less expense, independent of other causes, more commonly occasion unhappiness between husband and wife, frequently causing him to seek sensual gratification elsewhere, and which position of affairs would be by no means improved, should he be presented with diseased or deformed offspring. It would, therefore, be much better for females, afflicted as just described, to

lead a single life, than to secure the title of wife at so great a cost as increased ill health, sickly children, loss of affection, abuse, wretchedness and suffering of mind and body, and an accelerated dissolution.

Nor is it proper for females to marry, who, although of proper age and otherwise healthy, have never menstruated; at least, they should delay the ceremony until it has been determined by competent judges whether or no the absence of menstruation be due to an absence of the womb, a closure of the vagina, or other causes that would, if known, be sufficient grounds for preventing a matrimonial alliance.

It is supposed by many that the peculiar organization of woman, her delicacy of structure, and her special functions, are of such a character that disease with her is the general rule, and health the exception; and we even find medical men who uphold a similar view. This is positively erroneous; it is an insult to the Being who called her into existence, and who has made her in all respects, at least as far as the functions of reproduction are concerned, equal, if not superior to the females of all other living creatures. Naturally, females are not more subject to disease than males, but the sedentary habits, and the unnatural modes and customs which have been imposed upon her, and to which she is obliged to conform, tend to enfeeble her whole system, and produce that delicacy of susceptibility and impressibility so favorable to maladial attacks.

Probably, in no condition do females suffer so much, or become so subjected to disease and premature decay as in the married state; and this, not because ill health follows as a necessary result of wedlock, but because of the excesses to which they are obliged to submit, under the guise of *legality* and *duty*. A female who unfortunately contracts a matrimonial alliance with a merely animal man, is much to be pitied. She is looked upon and treated as a mere plaything, a machine to administer to his pleasures, independent of her own natural desires; she must be passively submissive. It matters not how much her constitution is undermined thereby, nor whether disease or death is to be the consequence,—she is his wife—duty demands of her submission to her sensual master—the law gives him absolute control—she must obey. Her matrimonial life, instead

of being chaste and one of true happiness, is a life of secret lust and degradation; and though compelled to learn and undergo lasciviousness in all its shameful forms, yet is it required of her to cultivate and maintain mental purity, modest deportment, virtuous principles, and an immaculate reputation. Nor is it permitted her to make use of exercise and other means to re-invigorate the nervous system, to oxygenize and re-vivify the blood, and to strengthen the digestive apparatus, all of which become seriously impaired by excessive sensuality,—at least, without being subjected to unjust suspicions, sneering remarks, and unkind ridicule.

It is true that, occasionally, females of excessive animal propensities are met with; but their proportion is small when compared with the whole sex; and even these suffer from constant and unnatural excesses. But the principal error, the root of all the evil, lies in the early education of the female, who is trained from infancy to please the opposite sex, to attract their notice and admiration, to rely upon them as protectors and superiors, and to prepare herself for the slavery, degradation, and dangers of an unchaste wedlock.

Is it, then, to be at all wondered at that we find disease so common among women, as, vaginal relaxation, uterine prolapsus, menstrual derangements, diseases of the uterus and ovaries, nervous debility and irritability, &c.; or that the offspring are feeble, diseased, imbecile, or deformed, and frequently dying during the first months of their existence? And though sexual abuses are certain to terminate in a series of evils, these become more deplorable when their cause is persisted in at improper times, as during pregnancy and lactation. Man appears willing to procure his own enjoyment, even at the sacrifice of the health and life of his helpmate, and the deterioration of his offspring; but when disease and its accompanying expenses are presented to him as the legitimate results of his folly, he complains loudly, censures his Maker, exclaims against fate, upbraids his wife, condemns every body and every thing as the cause of his misfortunes; but seldom prefers to investigate his own doings, to learn if his own disregard of the laws of nature is not the sole origin of all his grievances. It is a great misfortune for the human race, that the idea has been popularly

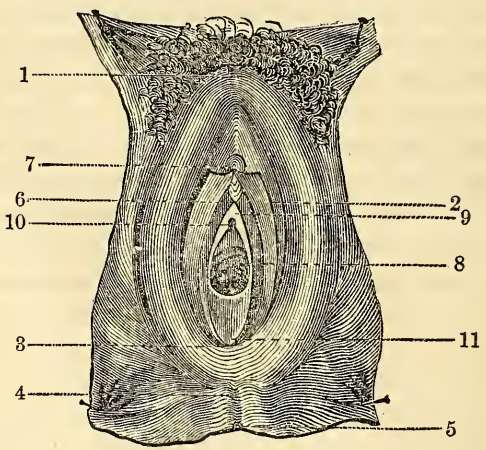
sanctioned that excess in sexual duties are indications of manliness and true affection, while on the other hand woman's love is judged of by her ready and implicit obedience to all the lustful desires of a lascivious husband.

Many of the diseases peculiar to the female sex are not only produced, but perpetuated by the continuance of the above-named cause; and it is frequently the case that a curable malady is prevented from being cured by a persistence in sexual intercourse while the female is undergoing medical treatment. And such we must expect always to be the case, until man learns to use that principle that makes him superior to the brute creation—*the mind*—through which he will ascertain the correct laws of nature relative to the important function of reproduction—as well as the inevitable consequences of transgressing those laws—and thus be led to control and overcome all improper or unhealthy propensities; and to look upon woman as an equal in all respects, though fitted for a sphere differing from his own, and not requiring her to sacrifice health, happiness, and even life itself, merely to gratify his own selfish libidinous desires, under the cloak of *legal rights*, and *matrimonial duties*—terms, which on such occasions are mere mockery.

PART I.

DISEASES OF EXTERNAL FEMALE ORGANS OF GENERATION.

Fig. 1.



1. The Mons Veneris. 2. The Labia Majora. 3. The Fourchette, or Posterior Commissure of the Vulva. 4. The Perineum, extending from the Fourchette to the Anus. 5. The Anus. 6. The Clitoris. 7. The Preputium Clitoridis. 8. The Labia Minora. 9. The Vestibulum. 10. The Meatus Urinarius. 11. The Hymen.

DESCRIPTION OF THE EXTERNAL ORGANS.

THE external genitals of the female, or those which may readily be noticed by the eye, are termed the *pudenda;* and are composed of the mons veneris, the vulva, the labia majora, the clitoris, the labia minora, the vestibulum, the meatus urinarius, the hymen, the carunculæ myrtiformes, the fourchette, the fossa navicularis, and the perineum.

The *mons veneris* is an eminence situated immediately over the pubic or share bone, at the lower part of the abdomen,

and immediately above the vulva. It consists of skin somewhat darker than that by which it is surrounded, beneath which is deposited more or less adipose matter; in early life this part is smooth, but at womanhood it becomes covered with hair, which frequently disappears after the cessation of menstruation. This part is subject to inflammations, abscesses, bruises, wounds &c., some of which are apt to be exceedingly painful and tedious to remove. These affections are to be treated the same as when met with in other parts, conjoined, however, with rest in the recumbent position.

The *vulva* is the longitudinal slit which commences above at the mons veneris, and passes downward to the perineum; it is formed by the union of the labia majora, and constitutes the external entrance of the vagina. Its orifice is usually small and narrow in girls, and quite large in women who have given birth to children.

The *labia majora*, or large lips, called also "labia externa," (external lips) and "labia pudendi," (lips of the pudenda) are situated, one on each side of the vulva; they are two oblong folds or eminences, more or less plump, being, however, more prominent above than below, in consequence of their thickness diminishing as they proceed from above downward. Externally, they have a covering of common skin, which at maturity is studded with hairs, these being found more abundant on the upper portions of the labia. The internal surface of the labia presents a mucous membrane, which is very fine, soft, and sensitive; in early life it is of a bright rose color, but, as the person advances in years becomes darker, until it assumes a leaden hue, and which color is also generally observed among those who are pregnant. The tissue between the external and internal surfaces of the labia is cellular, with more or less adipose substance. When the labia are in contact with each other they effectually close up the entrance to the vagina, thus defending the internal organs from the action of the atmosphere, deleterious or acrid vapors, and other external influences; and they are prevented from adhering together, and from injuring each other by friction, by the presence of a fluid which is secreted from the glands furnished to their inner mucous surface. Rosette-form sebaceous glands, varying in size from

¼ to 1 line, together with large and small hair follicles, are found on both surfaces of these labia, and their mucous membrane is furnished with numerous papillæ, covered with squamose epithelium varying in size from .01 to .016 of a line, the larger scales preserving distinct nuclei. The point where the labia majora unite at their upper extremity is called the *anterior commissure of the vulva;* and their point of union at the lower extremity is termed the *posterior commissure of the vulva.*

The labia majora are subject to various diseases, as inflammation, syphilis, infiltrations, &c.; physical injuries are likewise frequently met with, the results of blows, kicks, falls, forcible attempts at coition, &c., the treatment of which will be hereafter considered.

Upon separating the labia majora the other external parts become exposed to view. Immediately below the anterior commissure of the vulva, and at the point of union of the labia minora, is a small red protuberance called the *clitoris;* generally its length is from one-fourth of an inch to one-half. I have seen it, however, as long as an inch and a half, and cases are recorded where it has acquired a size of six inches in length,—but the probability is, that such enormous growths were owing to some morbid condition.

The clitoris is provided with two corpora cavernosa (cavernous bodies) like the male penis, but without any canal or spongy substance, and like the latter organ it is erectile, being furnished with two small erector muscles. The fold formed by the junction of the labia minora, and which surrounds the clitoris, is called the hood or prepuce, *præputium clitoridis;* and though this organ possesses no glans like the male penis, yet from its resemblance to a glans, the external termination of it has been named the *glans clitoridis.*

The clitoris is furnished with arteries and veins, and also with nerves which render it excessively sensitive; its mucous covering is provided with papillæ from one-twenty-fourth to one-thirty-third of a line in length, and also with epithelial scales, similar to those mentioned as belonging to the mucous surface of the labia. The clitoris is the seat of the voluptuous sensations which arise during copulation; and the venereal orgasm may be accomplished by merely titillating it, as witnessed

among female masturbators. A very large development of this organ has led to a belief in hermaphrodism; and when in a morbid condition it often gives rise to a very distressing affection known as "nymphomania." In infants the clitoris appears proportionably larger than in adults, on account of the imperfect development of the surrounding parts.

Enlargement of the clitoris is most generally owing to a diseased condition of the part, and may be attended with very unpleasant symptoms, causing in many instances, from a morbid sensibility of the organ, most distressing nymphomania. When the clitoris is not very large, cooling lotions to the part, rest in the recumbent posture, and regularity of the bowels, will be required, together with the cold douche to the head and spine daily, and a nourishing but non-stimulating diet. In some cases, benefit will be derived by the application of Nitrate of Silver to the whole of the organ and nymphæ; or, of compresses moistened with a solution of Cyanuret of Potassium. To diminish the sexual appetite, the alcoholic extract of Conium Maculatum, or, an infusion of Sage, or of Black Willow Buds, may be administered internally. When the enlargement is very considerable, and the above means fail to check the further development of the organ and remove the unpleasant accompanying symptoms, or when the sexual excitement, with a moderately hypertrophied clitoris, is intense, the organ must be excised. Holding it by forceps or tenaculum, with a bistoury or curved scissors, cut close to the pubis in an oblique direction, and remove the clitoris at a stroke; and if the bleeding be excessive, check it by Nitrate of Silver, ligature, or cautery. Warts, ulcerations, tumors, &c., of the clitoris, are to be treated the same as when these appear on other parts of the external genitals. (See Nymphomania.)

The *labia minora* (smaller lips), also called "labia interna," (internal lips,) or "nymphæ," are two folds of the mucous membrane of the vagina, which are situated between the labia majora, running parallel with them, commencing just below the anterior commissure of the vulva, and extending downward to about the center of the circumference of the vaginal orifice, gradually diminishing in size as they descend. At their upper extremity they are adherent with each other, but are free below.

They are smooth, firm and red in young persons, but become dark, flaccid, wrinkled, granulated, or elongated by frequent coitions, child-bearing, age, disease, &c. They contain in their substance cellular, as well as a layer of spongy, erectile tissue; their mucous membrane is provided with epithelial scales, similar to those belonging to the labia majora, and varying from .012 to .02 of a line in length, underneath which are much developed papillæ, from 1-10th to 1-20th of a line in length; rosette-shaped sebaceous glands from 1-10th to ½ a line are also found, which are usually not connected with hair-sacs, and which have an orifice of .033 of a line, from which is discharged a substance which becomes of an unpleasant odor among the uncleanly who do not remove it by washing the parts. Blood-vessels and nerves likewise enter into the composition of the nymphæ, rendering them exceedingly sensitive.

In early life, owing to the immaturity of the parts, the nymphæ extend beyond the labia majora, but as the parts become more fully developed at puberty, this saliency disappears. Sometimes women are met with in whom the nymphæ are excessively prominent; and among the Hottentots this elongation is stated to extend from eight to twelve inches, which condition has been named the Hottentot *apron*. From their great degree of sensibility there is no doubt but these organs contribute to increase the enjoyment of coition, as well as in consequence of their drawing the clitoris downward and forward so that it may experience a friction along the dorsum penis. They are subject to mechanical injuries, inflammations, and other maladies.

In instances where the nymphæ become so large as to interfere with walking, coition, &c., or to produce distressing symptoms, not relieved by rest, sedative applications, emollients, &c., they may be excised, thus: extend one of the labia with the fingers or forceps, and remove it by means of a curved polypus scissors,—then remove the other labium in the same manner. Much bleeding is not apt to follow, but should it become excessive, the application of Tannic Acid, Pagliari's Styptic, or a mixture of powdered Alum and Rosin, which may be kept over the bleeding surface by a compress, will generally suffice; if

these fail, Nitrate of Silver, the ligature, or cautery may be used. When the diseased condition of the nymphæ is owing to cancer, syphilitic disease, fungous tumors, or gangrene, the whole of the diseased tissue should be removed, extending the incision even beyond into the healthy texture; but the operation in the latter instances should be delayed until after a fair trial with local and constitutional measures.

When the nymphæ become lacerated during labor, or from mechanical injuries, the parts must be kept clean, washing them frequently through the day, with Castile soap and water, to which some spirits may be added; and in other respects pursue a course similar to that named under "Laceration of the Labia." When the labia are extensively ruptured, in addition to the above, one or two sutures may be required to keep the torn edges in contact.

The *vestibulum* is a depression which is situated beneath the clitoris, above the meatus urinarius, and between the labia minora; it is triangular in shape, about ten or twelve lines in length, and is furnished with racemose mucous glands from $\frac{1}{4}$ to $1\frac{3}{4}$ lines in size. At the lower part of the vestibulum is a small protuberance or bulb, in the center of which will be found the meatus urinarius. The introduction of the catheter into the female bladder is facilitated by first finding the vestibulum with the finger, and then by carrying it downward to the top of the pubic arch, the bulbous protuberance will be felt, upon the surface of which will be found the meatus urinarius, into which the catheter must be guided. This is an easy operation, and should always be taught to females by their attending physicians, when it is required frequently to evacuate the bladder by this means.

The *meatus urinarius* is the external orifice of the urethra; papillæ are found around it, together with simple vascular loops, the same as occur in the other situations where papillæ are met with; when these are very large or compound, the loops are more complex. Sometimes sebaceous glands are observed around the meatus, also racemose glands similar to those in the vestibulum. The two glands of Bartholini, located at the lower extremity of the bulb of the vestibulum, are ordinary racemose mucous glands, about half an inch in size, with

gland vesicles shaped like a pear, and studded with tessellated epithelium from .02 to .06 of a line in diameter, and contained in a dense, nucleated, non-muscular, connective tissue; these glands have excretory ducts over half an inch long, and .5 of a line in width, which contain a clear, yellowish, viscid mucus, and on their external mucous surface is a cylinder epithelium .01 of a line thick, and a thin layer of long, smooth muscles.

The *urethra* is the canal leading from the meatus urinarius to the bladder; in the female it is an inch or two in length, somewhat curved, with its convexity downward, and passes in an upward and backward direction behind the pubic or share bone. It is very dilatable, so much so that calculi have passed through it, three, four, and five inches in diameter. During pregnancy its direction may be changed so as to run upward, nearly, if not quite, parallel with the pubic bone, and its length may be considerably increased at the time of labor. Its internal mucous lining membrane presents longitudinal corrugations, and numerous follicular orifices, especially near the bladder. Ordinarily it is three or four lines in diameter. It is liable to rupture at the time of labor, forming an urethro-vaginal fistula, and is also subject to polypus formations, swellings, &c. The mucous membrane is red, with an abundance of vessels, forming plexuses in the submucous tissue, and is provided with squamous epithelium,—the deep-seated scales being elongated; the urethra is moistened by a fluid from the glands of Littre, which are a number of racemose mucous glandules varying in size from $\frac{1}{2}$ to 2 lines. Muscular tissue is also united with the mucous urethral membrane, the fibres of which are principally transverse.

The *hymen*, vulgarly called the "maidenhead," is a valvular fold of the mucous membrane of the vagina, extending across the posterior part of the vaginal orifice; it is usually of a crescent shape, its convex margin being downward and adherent, and its concave edge being upward, free, and extending across the middle portion of the vaginal entrance, leaving a small aperture above for the exit of the vaginal discharges. Sometimes the hymen is circular or parabolic, with one or several orifices to permit the escape of the uterine and vaginal discharges; occasionally, it is met with occluded, in consequence

of which the discharges cannot be passed away. It is located about half an inch within the vulva, and forms a kind of valve in front of the vagina. It contains the same elements as the vaginal mucous membrane. Most generally, the hymen is thin and readily broken, even upon an application of the slightest force; sometimes it yields without becoming ruptured; and occasionally it is met with so thick and firm as to prevent coition, requiring an operation.

The hymen does not appear to be of any great importance, as its loss is not attended with any physical damage. Its presence has been long considered an indication of virginity, but there is no real foundation for such an opinion, as it is frequently so delicate in texture as to be ruptured by the slightest causes, as in coughing, sneezing, jumping, &c.; and is frequently destroyed among female infants by careless washing of the parts by the nurse; and, again, it has been found so firm and yielding, that notwithstanding pregnancy has taken place, the membrane has remained unruptured up to the period of labor.

When the hymen is *imperforate*, it prevents the menstrual flow from being evacuated, in consequence of which the vagina and uterus become filled and distended with the fluid, ultimately giving rise to an enlargement of these organs, as well as of the breasts, accompanied with more or less pain, sense of fulness, and constitutional symptoms. And sometimes the membrane is so firm as to prevent sexual congress. The best method of removing this difficulty is, first to puncture the hymen, and permit the retained discharges to flow away gradually, after which remove the entire membrane by a circular incision carried to its point of union with the labia. This will be less likely to occasion after trouble than the crucial or stellate incisions recommended by authors. Always, before attempting the operation, have the bladder and rectum evacuated. Sometimes fatal peritonitis follows the operation.

The *carunculæ myrtiformes* are small elevations situated at the vaginal orifice, of a red, pale, or leaden color, and of a roundish or compressed shape. They are in pairs, and vary in number from two to four, the anterior ones being smaller and shorter than the two posterior. They are supposed by many to be the

remains of the hymen, but exist independently of this membrane. When they are unpleasantly large, they may be reduced in size by cutting off a part of their free extremities with a scissors.

The *fourchette* is a fold of mucous membrane, somewhat resembling a bridle or *frænum*, which unites the labia majora at the posterior commissure of the vulva, and which is usually ruptured during first labors. Between this bridle and the hymen is a boat-shaped depression about half an inch in length, called the *fossa navicularis*, which, like the fourchette, is commonly lacerated during the expulsion of the fetal head in first labors. These lacerations occasion but little or no trouble, unless they extend into the perineum.

The *perineum* is the space extending from the fourchette to the anus. Its length varies, being from an inch to an inch and a half in its ordinary state; but it is very extensible, and during the passage of the fetal head in labor, it may be stretched to five or six inches. It consists of fascia, adipose cellular tissue, and muscular fiber internally, and is covered externally with skin. The muscles which have their common insertion at its center, are the sphincter ani, transversalis perinæi, and constrictor vaginæ; so that a rupture or incision in the median line of the perineum, by dividing these muscles at the point of their insertion, will more or less widely separate the margins of the cleft thus made, in proportion to the contractile power of the divided muscles, and which separation will be further aided by the fibers of the more deeply seated levator ani muscle. The hard elevation seen along the median line of the perineum, is termed the "raphe of the perineum." The perineum is very apt to be lacerated during labor, from improper support given by the accoucheur, and from its becoming rigid and unyielding.

PHLEGMONOUS INFLAMMATION, OR ABSCESS OF THE LABIA.

Females, at any period of life, are subject to an inflammation of the skin and the cellular tissue beneath it, of one or both labia majora; it is generally accompanied with much pain.

Causes. It is commonly the result of some mechanical violence, as falls, bruises, forcible or excessive coitus, use of instruments during labor, or long continued pressure upon the parts by the head of the child, &c. It may also be caused by cold, acrid discharges, and dysmenorrhea, and frequently manifests itself without any ascribable cause.

Symptoms. When sitting or moving about, the patient experiences more or less pain in the part, with a degree of fulness; this is soon succeeded by the ordinary symptoms witnessed in phlegmonous inflammation of other parts, as increased pain, great local heat, swelling and redness. The pain and swelling frequently extend to the surrounding parts, and may occasion an enlargement of the inguinal glands. If the disease be allowed to progress, the pain assumes a throbbing character, and suppuration rapidly ensues, the abscess thus formed may be small or large, superficial or deeply seated, and it may point and discharge at the inner surface of the affected labia, or at a part more remote. It is not uncommon for a female to have several attacks of this disease, in immediate succession.

Discrimination. The heat, limited hardness of the swelling, excessive tenderness to the touch, and dark red color, indicate the character of the disease. It may be discriminated from *hernia* or *vulvar enterocele*, by the greater firmness of the tumor, and which is more limited in its character than in hernia; beside, coughing, bearing down, or the erect posture, does not render the tumor larger, harder, or more tense, nor is it reducible. It may also be determined from *œdema of the labia*, by the swelling in this last disease being diffused and not limited; its gradual appearance; the surface being soft and retaining the impression made when pressed upon by the fingers; the lighter color of the parts; and almost entire absence of pain upon pressure.

Treatment. The disease readily yields to treatment when attended to at an early stage; but, unfortunately, from mistaken delicacy, the female generally neglects to call in a physician until suppuration has ensued.

In an early stage, the application of warm fomentations of Stramonium leaves, or Hops and Lobelia leaves, with the application of a few leeches when the inflammation is intense, will be sufficient to terminate the attack by resolution. The bowels must be kept open; the patient must remain in a recumbent, quiet position; and to aid in allaying the inflammation and accompanying irritable condition of the system, small doses of the Compound Powder of Ipecacuanha and Opium should be administered. In a few instances, cold fomentations will be found more efficient than warm. In severe cases, a strong decoction of equal parts of Burdock seed and Ground Centaury (*Polygala nuttalli*) may be taken in tablespoonful doses, three or four times a day; and in cases where there is much debility, equal parts of the above articles with Red Peruvian bark, may be made into a vinous infusion, and administered.

If suppuration has taken place, hasten its maturity by warm fomentations or emollient poultices, and allow the abscess to rupture and discharge spontaneously; opening it with the lancet only when it is very painful, or deep-seated and disposed to point at some more distant part.

The poultices should be continued for several days after the opening of the abscess; if it assume an indolent character, stimulants may be introduced into it, as Powdered Bloodroot. Sesquicarbonate of Potassa, Solution of Chloride of Zinc, &c. Any tendency to gangrene must be met with absolute quiet, tonics if there be much debility, and the application of poultices of Elm bark and Wild Indigo leaves, or, of Elm, Charcoal and Yeast, with or without the addition of Solution of Sulphate of Zinc.

Sometimes a hardness of the part remains after the wound is healed, which may be removed by the continued use of some stimulating application; as, for instance, a preparation composed of White Gum Turpentine two parts, Tallow one

part; melt together, strain, and rub in Alcoholic Extract of Belladonna one part, powdered Iodine one fourth of a part.

From neglect or improper treatment the matter may penetrate to the rectum or other remote points, forming fistulous sinuses. When these occur treat the same as for fistula in ano.

Rarely, females are attacked with a gangrenous affection, termed *carbuncle of the genitals*, which commonly commences with phlegmonous inflammation; and occasionally with œdema, or phagedenic ulceration, and without pain; ordinarily, there is swelling, usually in the neighborhood of the mons veneris, with heat, great pain, and a smooth, glossy, dark reddish appearance of the skin; the pain gradually diminishes; a purplish spot appears, having a central pit; it rapidly becomes darker colored; gangrene manifests itself and rapidly extends to the surrounding parts. The disease is always of a serious character. The *treatment* internally should be the administration of Chlorate of Potassa, three times a day, in doses of ten or twelve grains, and given in wine or porter, together with the following: Take of Red Peruvian Bark one ounce, Ground Centaury half an ounce, Wine or Whisky two pints; mix, and give a wine-glass full of the tincture three or four times a day. If there be anemia present, the Tincture of Chloride of Iron may be given. The parts must be kept clean; Caustic Potassa should be freely applied to the discolored part, after which a poultice should be laid over, composed of equal parts of Marsh Mallow root, Wild Indigo leaves, and the leaves of Ground Centaury. Frequently change this poultice, and reapply the caustic from time to time as the slough falls off, until the tissues assume a healthy appearance, when the ulcer may be healed as a simple ulcer. Any offensive odor may be removed by Pyroligneous Acid, Solution of Sulphate of Zinc, or Yeast, either of which may be added to the above poultice. Keep the bowels regular with injections or aperients, and sustain the strength of the system by tonics and nourishing diet.

ŒDEMA OF THE LABIA.

Causes. An œdematous condition of the labia may occur during pregnancy from the enlarged uterus pressing upon the veins and interfering with the circulation of venous blood; or, it may proceed from dropsy of the abdomen, or a natural tendency to effusions of water. Sometimes it is connected with inflammation of the parts, especially of an erysipelatous nature, and assumes a more formidable character.

Symptoms. The labia swell, giving a sense of fulness; the parts are of a pale red color, glossy, tense, somewhat transparent, and retain the pit made by pressure. There is but little tenderness, except when accompanied with local inflammation. The swelling sometimes becomes so large as to render walking difficult and painful; and during labor, it may interfere with the necessary vaginal examinations, so that the os tincæ cannot be felt, and the fetal head be prevented from passing. The swelling, as well as any pain or uneasiness it occasions, is diminished when the patient is in the recumbent position. When the œdema is caused by pregnancy, or enlargement of the uterus from disease, it, in most instances, passes away after parturition, or the removal of the cause.

Discrimination. Œdema of the labia, or vulva, may be determined from *phlegmonous inflammation*, by the hard, limited, dark red, and very painful swelling of the parts in this last disease, which do not pit upon pressure; from *thrombus*, by the dark red color of the skin, the suddenness of the attack, and its occurring during labor—the swelling in œdema taking place previous to labor; from *encysted tumors*, by these being round, circumscribed, and of slow growth. (See Vulvar Enterocele.)

Treatment. When this affection is due to an obstruction of the circulation of the fluids from pressure upon the vessels, the constant local application of cold astringent solutions, together with steady compression of the parts, will generally suffice, in conjunction with moderate purgation, and the recumbent position. But should the swelling be very considerable, and more especially when at the period of labor, interfering with the delivery of the child's head, small punctures made with a finely pointed lancet upon the internal surface of the labia,

will allow the fluid to escape, and thus reduce the parts to their normal size. Any local inflammation occasioned by friction of the labia upon each other, or any febrile symptoms which may be present, must be met with the application of fomentations, rest in a horizontal position, purgatives, diaphoretics, and the various means generally employed for such conditions.

No punctures should ever be made into the labia, until a correct examination has determined the true character of the difficulty, as there may be enterocele or other misplacement which would prove fatal in case punctures were made from a mistaken diagnosis.

When œdema of the labia is owing to general dropsy, or dropsy of the abdomen, it will disappear, upon the removal of the original malady by the proper treatment.

VARICES OF THE LABIA.

Causes. This difficulty may be occasioned by tedious, painful labors, rapid pregnancies, excessive intercourse, &c.

Symptoms. A varicose condition of the labia may be known by its resemblance to varix of the inferior extremities; the veins may be seen enlarged on one or both surfaces of the labia, forming bluish colored, indolent tumors or lumps, which are removed by pressure, but return as soon as this is taken away; pruritus frequently accompanies the disease.

Treatment. Whatever may be the cause of varix, it will, as a general rule, disappear with the removal of the cause. When, however, the parts are sluggish in their action, compresses moistened with astringent solutions may be applied; coitus must be abandoned during the treatment, and the bowels be kept regular. When there is pain and irritation, the patient must remain quiet, and sedative solutions be applied to the parts. If ulcerations occur, treat with Perchloride of Iron, or Solution of Sulphate of Zinc, applied on lint. (For Thrombus, or Sanguineous Tumefaction of the Labium, see King's Obstetrics, page 489.)

ENCYSTED TUMORS OF THE LABIA.

Symptoms. These tumors are few, being slowly and painlessly developed; they are more or less rounded, limited in their extent, and are soft and somewhat fluctuating, not presenting the hardness of fibrous tumors; the skin covering them may be unchanged in color, or it may assume a reddish-brown, or bluish hue. Sometimes they become very large, being accompanied with a sense of weight and uneasiness, increased by motion, by urinary and alvine evacuations, and by coitus; and are occasionally attacked by inflammation, more especially when too frequently or improperly handled. Very rarely, they terminate in obstinate ulceration. Although free from pain, they may ultimately give rise to it, being a consequence of their pressure upon the neighboring tissues. They consist of a sac, the walls of which are whitish, smooth, and filled with a brownish, or transparent, thick, serous fluid, or a thin purulent like substance, with occasional blood stains.

Sometimes, the tumor is solid. They are usually the result of long continued pressure or mechanical injuries, occurring at some time previous to the appearance of the cyst.

Discrimination. It is important to ascertain that the disease is not vulvar enterocele, or cystocele, before attempting treatment. The tumor of *enterocele* or *hernia*, becomes harder and more tense and swollen upon coughing, bearing down, or standing erect; when there is a *hernia of the bladder*, it may be detected in the same way, and it may also be necessary to pass a catheter into the bladder.

Treatment. These tumors may be removed by carefully dissecting out the whole cyst; and this is decidedly the best course to pursue, being careful to observe that after the operation healthy granulations cover the entire wounded surface, and which may be effected by touching it with Nitrate of Silver, or stimulating agents; or the tumor may be punctured, and its contents evacuated; after which the cyst should be destroyed by caustics, else it will be very likely to return. If a removal of the sac by dissection should be followed by too copious hemorrhage, it may be treated by styptics, the ligature, or the actual cautery, as the case may demand. A seton passed through the cyst has, likewise, effected its removal.

OOZING TUMOR OF THE LABIA.

Symptoms. This is a tumor which may affect one or both labia, and occasionally extends to the mons veneris. The tissue of the affected labium is elevated, presenting a number of firm, irregular projections, seldom over one-third of an inch above the natural surface, with numerous furrows or fissures; little or no discoloration of the parts is observed. From the tumor, and more especially from its fissures, is discharged an aqueous fluid in large quantity, which, although not troublesome at first, soon causes irritation and excoriation, with more or less severe shooting pains on the inner surface of the labia, great heat, and often an annoying itching. This discharge is more abundant in enfeebled systems and during moist weather.

The disease is more apt to attack corpulent females who have been debilitated by pregnancies or other causes.

Discrimination. It may be determined from *excoriation of the labia*, or *erysipelas*, by observing that the projecting parts are solid, and contain no fluid.

Treatment. This disease will not yield to local remedies alone; the general system must be attended to, giving tonics, alteratives, nourishing and easily digested diet, together with an attention to the skin, keeping the bowels regular, and avoiding exposures to a moist atmosphere, or to sudden changes. Bathing with salt water, has been found advantageous. The parts should be kept cool, and means be used to absorb the discharge, together with the use of dessicatives, as lint on which Tannic Acid, Geranium, powdered Oak bark, Alum, Sulphate of Zinc, &c., has been sprinkled. This may be kept in place by a bandage. The parts may be frequently bathed with solutions of the above articles, or with Port Wine, diluted Alcohol, Tincture of Chloride of Iron, &c. As the fluid is more profuse on standing or moving, it will be better for the patient to keep quiet in a recumbent position as much as possible. Excision of the labia has been performed by Sir. C. M. Clarke, in a case where other means had failed to produce any benefit; the wound healed and the operation proved successful.

COHESION OF THE LABIA.

The labia are sometimes met with more or less perfectly united, and which condition may be congenital, or it may be the result of inflammations, or injuries to the part. As this cohesion of the labia may prevent the evacuation of the bladder, and thus occasion the death of the child or individual, and as it also interferes with sexual congress, as well as parturition when the union takes place after conception, an operation is usually necessary. Pregnancy has occurred in cases where the union was incomplete, and in which delivery could not be effected until after an operation.

When the union of the labia prevents the evacuation of the bladder, as with newly born infants, the operation must be performed as soon as possible after birth, lest the child die. It is also proper to operate when the lower portions of the labia adhere, causing the urine to flow into the vagina, and occasioning fistula, ulceration, &c.; or, when there is a retention of more or less of the menstrual discharge. When the urine and menses escape freely, the health does not become affected, and the operation will not be called for until the period of puberty, either before or after marriage.

The operation consists in making a longitudinal incision along the middle of the seam formed by the union of the labia in the median line; the instrument used is a bistoury, which must be guided upon a grooved director. In some instances, a probe-pointed scissors may be employed. After the operation, the surfaces must be prevented from reuniting by touching them with nitrate of silver, and applying simple cerate on lint or on a compress. In those cases where the vagina and uterus have become very much distended by an accumulation of the menstrual fluid, it will be better to make a small orifice at first, that the distended organs may not be injured by too sudden a removal of their contained fluids; after which, the labia may be completely separated.

When cohesion of the labia occurs in children as a result of irritation or inflammation of their mucous tissues, Prof. Meigs states that even up to the tenth year, the mucous membranes have not combined with each other, but are only attached by a sort of interlocking villi; he recommends the stretching of

the labia as widely as possible, and then with the blunt end of an oiled probe, to pass it along the seam or raphe formed at their point of attachment, and carefully separate them from each other, afterward using means to prevent them from forming a new agglutination. (See Meigs on Woman and her Diseases, p. 126.)

Sometimes the labia majora and nymphæ will be found cohering together; when the deformity requires an operation, it may be effected by one of the modes above named, making the separation along the line of coherence.

CONTUSION OF THE LABIA.

The labia and surrounding parts are frequently injured by kicks, falls, forcible attempts at intercourse, &c., which may occasion an ecchymosed condition of them. Difficult or instrumental labor is likewise apt to be followed by a similar result. The parts swell, assume a purplish or black color, and sometimes suppurate. In some instances the swelling becomes very considerable, with heat, tension, and more or less pain in the parts. A throbbing pain, rigors, or fluctuation in the tumor is an indication of suppuration.

Treatment. When the contusion is not severe, Tincture of Arnica, or of St. John's-wort, may be applied on lint or on compresses. If the injury is of a violent character, a few leeches may be applied around the margin of the ecchymosed spots, after which one of the above named tinctures may be applied.

When the pain is very severe, emollient and anodyne poultices or fomentations, should be used; these will not only relieve the pain, but will have a tendency to hasten suppuration when this is about to occur. When suppuration has taken place, it will be better to allow the abscess to open and discharge spontaneously, unless there be great pain, or the pointing be directed to some undesirable spot. After the matter has discharged, treat the same as any other abscess.

The labia may also be *lacerated* by falls, &c.; or this may occur at the time of labor from a too rapid and forcible expulsion of the child's head through the outlet. These lacerations are not

always readily curable; and if sloughing should take place, a cure would be doubtful. It is seldom the case that sutures will be required; the parts unite in such cases by the granulating process, and rarely, if ever, by the "first intention." The lacerated edges should be kept in contact by compresses, and by keeping the legs together, not allowing the female to separate them to any extent. According to the indications, cold water, Tincture of Arnica, or mucilaginous poultices, &c., should be applied; the wound should be protected as much as possible from the urine and other discharges from the parts, and a strict attention be paid to cleanliness.

WARTY TUMORS OF THE VULVA.

The mucous membrane of the labia, as well as of the nymphæ, clitoris, and vagina, is frequently attacked with warty growths, resembling the warts seen on the hands of children, and which may occur singly or in great numbers. I treated a case a few years since in which both labia were entirely covered with these verruccæ, and which bled upon the least touch. These warts are usually small, not exceeding the size of a pea, but may be met with much larger, varying from the size of a chestnut to that of a tumor weighing one or two pounds. They are usually pedunculated, and aggregated together in groups, presenting a surface somewhat like that of a mushroom. They do not cause any pain or soreness, except when inflamed; and when they are very large they render walking, or sitting down, very incommodious. More or less discharge is apt to attend them, and should they ulcerate, a copious, fetid, and acrid discharge occurs, which irritates the parts coming in contact with it.

They may be soft tumors consisting of cysts containing a fluid, or they may be hard and solid; and, in most instances, are probably enlarged papillæ. Their growth is usually slow, but occasionally they progress rapidly, enlarging, and not unfrequently ulcerating and forming troublesome sores to heal.

Causes. These excrescences may be the result of uncleanliness, a low grade of irritation or inflammation of the parts

produced and maintained by sexual excesses, and are often of syphilitic origin; sometimes there is no assignable cause.

Treatment. The best method for removing these growths is, by incision; clipping them off with a scissors as closely as possible to the surface of the labia, or parts on which they are found, and afterward applying styptics or caustics to lessen hemorrhage, and prevent their return. When they exist in great numbers, a few may be thus removed daily. They have also been removed by the application of a ligature around one or several of them, falling off in ten or twelve hours—but from their tendency to reproduce themselves, styptics or caustics should be applied to the part from which they have been thus removed. While treating them, the patient should be kept as quiet as possible, with regular alvine evacuations, and a light, nutritious, easily digested diet. Dr. Dewees has removed these excrescences by exposing them to the air, and covering them with powdered chalk, thus depriving them of moisture.

The soft variety of warts have been removed by the application of powdered Nitrate of Silver, Savin, Muriate of Ammonia, or, Acetic Acid, &c. When they are connected with syphilis, constitutional treatment must be conjoined with the local, as the Compound Syrup of Stillingia with the Iodide of Potassium, or other antisyphilitic remedy.

Dr. J. Marshall recommends Chromic Acid as an escharotic for the removal of warts and other growths upon the genital organs. One hundred grains of the crystallized acid are dissolved in a fluidounce of water, with which solution the excrescences are saturated, carefully avoiding the surrounding healthy parts. The application is made by means of a glass tube drawn to a point, and no more of the solution must be used than is required to saturate the diseased growths; any excess must be at once removed by a piece of wet lint. The pain is very slight, unless the surface be abraded, when it is more severe, passing off, however, in a short time, leaving a slight aching and soreness. The best immediate dressing is dry lint, and after the first twenty-four hours free ablution of the parts, a dressing of dry lint twice daily should be enjoined; or, to check any inflammation, the parts may be washed with a solution of Acetate of Lead, or Iodide of Cadmium, and the lint

moistened in the same. One application generally suffices, except in large warts, where several may be required; in from four to six days the warts waste and disappear. When the warts are very extensive, only a part should be treated at once, making repeated applications.

A tumor as large as a child's head, has been removed from the labia, by the *ecraseur*, without knives, ligatures, bleeding, or pain. Some tumors may be dispersed by the application of the Compound Lotion of Muriate of Ammonia.

PRURITUS OF THE VULVA.

Symptoms. This is a very annoying malady, characterized by excessive itching and smarting, of an almost insupportable nature; it may affect the labia majora alone, and more commonly on their mucous surface; or it may extend over the parts immediately beneath the labia, even to the vaginal orifice. Sometimes the itching continues throughout the entire vaginal canal. The superior portions of the labia and neighboring organs are more generally attacked by it. When the external surfaces of the labia are attacked, the disease frequently extends to the mons veneris.

The itching is much increased after eating, after exercise, and when the patient is in bed, and the desire to rub or scratch the parts is almost uncontrollable; and not only is the pruritus augmented by the friction, but frequently strong sexual desires are excited, difficult to subdue. The itching occasionally appears intermittently at longer or shorter intervals. Masturbation and Nymphomania have been the consequences of this affection. From the loss of sleep and nervous irritability occasioned, the general health soon begins to suffer; the appetite is lost, the bowels loose or constipated, with paleness of features and emaciation. Leucorrhea is frequently an attendant.

An examination, will discover the parts affected, hot, dry, and reddish, with or without aphthæ; or, they may be swollen, inflamed, and very sensitive; or, minute vesicles may be observed, which when ruptured by the nails in scratching, secrete a drop of fluid which forms a small brownish crust; or,

there may be an excoriation of the surface, from which exudes an acrid discharge; and, in some instances, no change whatever, can be found in the parts.

The disease may occur at any time of life, but is more common during pregnancy, and at the cessation of menstruation.

Causes. Pruritus of the Vulva may originate from various causes, as, uncleanliness of the parts, uterine maladies, menstrual derangements, pediculi pubis, leucorrhea, diseased bladder, constipation, rectal irritation from worms, eczema, hairs on the mucous membrane, &c.

Treatment. When the cause of the pruritus can be discovered, it must be treated in connection with the use of local applications; not much permanent benefit can be expected from mere local applications, when the cause of the affection remains in force. Hence, the necessity for a rigid preliminary examination to detect the cause, and subject it to the proper treatment.

As a general rule, the disease may be removed, or at all events greatly mitigated, by frequently bathing the parts with a strong infusion of Golden Seal, four fluidounces, in which is dissolved Powdered Borax, two drachms, Sulphate of Morphia, three grains. When much pain or inflammation is present, a poultice of Elm Bark and Lobelia Leaves with Solution of Borax may be applied; and if the disease extends within the vagina, an infusion of either of the above articles may be frequently injected therein. In severe cases, the application of six or eight leeches may be found beneficial, when followed by the preceding named measures. In a few cases I have found much relief to follow the application of the following mixture, three or four times a day:—take of Iodide of Cadmium half an ounce, Glycerin, four fluidounces; mix, for a lotion. Among pregnant females, the disease generally ceases with the birth of the child.

In those cases where the itching comes on periodically, the internal use of Sulphate of Quinia, either alone or combined with the Alcoholic Extract of Black Cohosh, will be found serviceable. Say half a grain of the Quinia to two grains of the Cohosh extract, formed into a pill for a dose, which may be

repeated three or four times a day. The patient should be kept as cool and quiet as possible, regulating the bowels with cooling laxatives, lessening excessive nervous excitability by sedatives and anodynes, and charging her to refrain from rubbing or scratching the parts. The surface of the body should be bathed daily, and the use of the warm bath, or warm hip-bath will prove highly advantageous. The diet must be light, avoiding salted food, fats, and all stimulants. When body-lice are present, (pediculi pubis,) they may be removed in a few days, by bathing the parts one or twice a day with Cologne.

When there is a disposition to nymphomania, the cold douche should be applied to the head and spinal column, with the internal use of the Alcoholic Extract of Conium Maculatum, in half grain or grain doses, repeated two or three times a day. The douche should be repeated according to indications. (See Nymphomania.)

INFLAMMATION OF THE VULVA.

Females are subject to inflammatory attacks of the vulva, which may extend even throughout the vagina. Both children and adults may suffer from it, but the symptoms differ with the age of the person. Infants are by no means free from it, and among whom it is known by the name of *infantile leucorrhea.* The inflammation may be accompanied with eczema, aphthæ, or prurigo, as already named under pruritus—the itching being, in fact, merely a symptom, and not a disease; or, it may be erysipelatous, catarrhal, syphilitic, &c., in its character, and may be confined simply to the mucous membranes, or may involve the whole subjacent structure, terminating by resolution, ulceration, or gangrene, &c.

Symptoms. *Among children* the inflammation is usually confined to the mucous tissues of the external organs, very seldom affecting the vagina. The child experiences considerable local uneasiness, which is soon accompanied with excessive itching, causing the little sufferer to rub or scratch the parts, thereby rendering both the pruritus and inflammation more intense. The mucous membrane is dry, hot, swollen, and

vividly red, and the passing of urine occasions a scalding sensation, so severe sometimes, that the child will retain its urine as long as possible. As the disease advances these symptoms become more and more aggravated, so that any attempts at locomotion causes a smarting pain; a clear mucous discharge takes the place of the previous dryness, which gradually increases, becoming thicker, and of a whitish or yellowish color. Sometimes the discharge is very acrid, excoriating the parts over which it flows, and occasionally giving rise to ulceration, and even adhesion of the labia. Usually the disease terminates in resolution without any great derangement of the general system; sometimes, however, the constitutional symptoms are uncommonly severe, especially when ulceration or gangrene is the result, and which conditions frequently prove fatal. Children of enfeebled constitutions, who are anemic, or of strumous habit, are more liable to these unfavorable terminations.

Causes. Inflammation of the Vulva is by no means a rare affection among children, and, from a mistaken idea that it must necessarily be occasioned by contact with an infected male organ, many an innocent person has heretofore been accused and made to suffer legal penalties for his supposed offence. Too much care cannot be observed in the investigation of the causes of this affection, lest a hasty decision, prove destructive to the reputation and happiness of the guiltless. In the whole course of my practice, I have met with but one instance in which the children and mother of a family were affected with gonorrheal inflammation, and which was occasioned by using the same vessel for urinary purposes as the father and husband,—a filthy person, who had contracted gonorrhea.

The most common causes of this malady among infants and children, are, want of nourishment, improper diet, uncleanliness of the parts, exposure to cold, mechanical injuries, the application of irritating matters to the vulva, obstinate constipation, and worms in the rectum. It has occurred sympathetically with mucous irritations of other parts, as, during dentition, severe catarrhal attacks, &c., and occasionally has appeared as an epidemic.

Treatment. Among children, inflammation of the vulva readily yields to warm infusion of Hops and Lobelia leaves—or, of Elm and Lobelia,—Solution of Borax,—warm water—or infusion of Poppies. The parts should be frequently bathed with one of these infusions, and a light compress moistened with the same, should be kept constantly applied during the intervals, which will tend to reduce the inflammation, as well as to prevent adhesion of the labia. The child should be prevented from moving about, and from making friction upon the parts, as the symptoms will be invariably aggravated thereby. The bowels must be kept open by cooling laxatives; the diet must be light but nourishing, and all stimulating food or drink must be avoided. Attention must be paid to the evacuation of the bladder, as, from the severe smarting pain, the child will be apt to postpone urinating until evil consequences may result; much of this suffering may be obviated by bathing the parts with one of the above named infusions, each time, immediately after the bladder has been emptied.

When the more acute inflammatory symptoms have subsided, the cure may be hastened by bathing the affected parts with a solution of Nitrate of Silver, ten or twenty grains to a fluidounce of water.

If the child be teething, the gums should be lanced. If catarrhal, erysipelatous, or other conditions be present, they must be treated in the same manner as when these appear under ordinary circumstances. Diarrhea will require the Compound Syrup of Rhubarb and Potassa, with astringents; and in some instances the internal use of the Tincture of Chloride of Iron will be found most advantageous. The presence of worms should not be overlooked, that the proper means may be used to remove them. The appearance of ulceration or gangrene, will demand stimulating and antiseptic local applications, together with the internal use of tonics, alteratives, nutritious diet, &c.

The disease is supposed to be contagious as it has produced purulent ophthalmia and intense urethritis when some of the discharge has been carelessly brought into contact with the eye, or orifice of the urethra; hence, some care should be used

in keeping the parts cleanly and preventing any of the discharge from remaining upon the fingers, &c.

It would be proper to remark here, that in a few cases I have cured this affection by Chlorate of Potassa, twenty grains, dissolved in water one fluid ounce; giving from one-fourth to one-half, or more, of the solution for a dose, according to the age of the child, and at the same time keeping it constantly applied to the affected parts, by means of lint moistened with it. The dose was repeated three or four times a day, avoiding any purgative effect from the remedy. It might possibly answer in the adult females in somewhat larger doses.

INFLAMMATION OF THE VULVA IN ADULTS.

Symptoms. The inflammation is more limited than when occurring among children; it may be confined to any one portion of the mucous membrane of the external genitals, or it may affect the whole. The patient complains of heat, and severe pain about the vulva, which are much aggravated on walking, sitting, and contact of the parts with foreign bodies; there is a scalding on passing urine, but rarely any pain, more or less tenesmus, and considerable itching, but the excessive sensitiveness of the parts prevents the patient from rubbing them. There is a transparent mucous discharge, which is sometimes mixed with leucorrheal matter. An examination will discover the affected mucous surface red and very sensitive, occasionally extending a short distance within the vagina. In some instances, cream-like exudations will be found upon the mucous surface, somewhat resembling those of aphthæ. Rarely, slight excoriations may be observed; or a few scattered elevations, or small vesicles may be seen, each of which, when broken, give rise to an ulcer. It is seldom that any great amount of swelling will be present; and the severity of the constitutional symptoms will depend upon the extent, activity, and character of the inflammation. The inflammation may extend into the deep-seated structures, and give rise to abscesses; but this is not usual.

Causes. When the sebaceous secretions of the mucous follicles are allowed to collect and become hard and rancid, they

cause a degree of irritation which may eventually be developed into inflammation; hence, females who neglect frequent bathings of the external genital organs are liable to this malady. Improper or undue excitement of the parts by excessive coitus, masturbation, &c., may also occasion it; and it frequently occurs among females soon after marriage. Sometimes, it may depend upon worms in the rectum, uterine disease, menstrual derangements, exposure to cold, and syphilitic infection.

Treatment. The patient must be kept quiet in a recumbent position, and emollient and sedative lotions or fomentations be applied to the parts constantly, the same as in the treatment named for children. The bowels must be kept regular by cooling laxatives, and the diet must be light, avoiding all stimulating articles. When the inflammation is severe, leeches to the vulva have been recommended, but I have never found them necessary, having succeeded with the lotions above referred to. Infusions of Stramonium, Hyoscyamus, Arnica, or Aconite, &c., will frequently be found beneficial as local applications. Upon the subsidence of the acute symptoms, a solution of Nitrate of Silver may be applied to the parts; and, in many instances, prompt benefit will follow the use of the Compound Lotion of Golden Seal, the Compound Myrrh Lotion, the Lotion of Golden Seal and Aconite, or the Compound Lotion of Zinc,—either of which are applicable to mucous inflammations after their acute character has been overcome, and often prove more serviceable than the Nitrate of Silver. Care must be taken that the inflamed surfaces in contact with each other do not adhere. Copulation must not be allowed until the parts have recovered their normal condition; and frequent bathing of the parts after recovery should be advised, as well as the avoidance of all causes which may occasion a return of the disease.

When the affection is owing to a syphilitic taint, and which may be suspected when whitish aphthous spots appear, or small elevations followed by copper-colored scabs, Nitrate of Silver may be applied to them; or, a small piece of soft wood may be dipped in Nitric Acid, then wiped with a piece of paper to remove excess of Acid, and the end of the stick be

carefully pressed upon each spot or pimple,—the wood will absorb sufficient of the acid to act upon the diseased parts when applied in this manner. This may be used once a day. Internally, the Compound Syrup of Stillingia with Iodide of Potassium, or other antisyphilitic must be administered.

VULVAR ENTEROCELE AND CYSTOCELE.

Vulvar Enterocele is a hernia of an intestine, which passes downward in the course of the vagina to its inferior portion, whence it proceeds, between this part of the vagina and the ischiatic branch, onward to the external labium of the ruptured side. It may be known by the hard, globular swelling, principally on the internal face of the vulva, which may extend along the vagina, and which is increased in size and firmness, upon the patient coughing when in an erect position.

Vulvar Cystocele is a descent of the urinary bladder in a similar manner. These displacements are very difficult to cure, and sometimes require an incision of the parts, especially when strangulation occurs,—but, fortunately, they are very rarely met with.

Treatment. The female being placed upon her back, with the shoulders elevated, and the thighs apart and flexed toward the abdomen, the operator, seizing the tumor with both hands, will slowly and carefully endeavor to reduce it by pressing it backward and upward toward its original site. It will be necessary to carry the pressure with the fingers of one hand along the inner wall of the vagina. As soon as the labium and side of the vagina have been freed from the descending hernial tumor, means must be used to prevent a return of the difficulty, which may be accomplished by the introduction of a pessary, or other instrument, to make pressure upon the vaginal wall, as near as possible at the point where the descent commences.

VASCULAR TUMOR IN THE MEATUS URINARIUS.

Females, both single and married, are subject to a very painful excrescence, which becomes developed at the meatus urinarius, or upon the internal surface of the urethra. It more commonly attacks the young, and is seldom seen after the "turn of life." It is probably caused by irritation or inflammation of the parts.

Symptoms. The part is very painful, with a sense of heaviness and bearing down, and irritability of the bladder attended with a frequent inclination to urinate—the urine scalding. The pain is insupportable when the parts receive the slightest pressure, during walking, or, in micturition; the patient postpones the evacuation of the bladder as long as possible, from a dread of the suffering caused by the flow of urine. Pains are generally felt throughout the pelvic region. Coitus and motion have to be discontinued. The disease is accompanied by a more or less profuse discharge.

Upon examining the parts, a tumor, varying in size from the head of a pin to that of a chestnut, will be found either upon or immediately within the meatus urinarius. It is of a scarlet red color, having a granulated surface, is exceedingly tender to the touch, soft and spongy, bleeds on being roughly manipulated, and is generally pediculated and movable. It is covered with a pale, very thin membrane, and is composed of nerves, bloodvessels, and cellular tissue. Sometimes the tumor is immovable; at others, two or more of these excrescences may be present, and they may be found in any part of the urethra, from its orifice to the bladder.

Treatment. Various remedies have been recommended for the removal of these tumors as Ligature, Tannic Acid, Nitrate of Silver, Caustic Potassa, &c., but though these methods may remove them, they speedily return again. The best plan is to seize them with a small forceps, and excise them by a curved polypus scissors or small knife, including in the section a portion of the mucous membrane surrounding them. After the excision, touch the wounded surface with the point of a stick which has been moistened with a little Nitric Acid, and this may be repeated every day or two until the wound heals. Nitrate of Silver has likewise been successfully used, after the

excision. When there are several excrescences, it will be better to remove only one or two at a time. Care must be taken not to mistake an inversion of the urinary bladder for one of these vascular tumors.

Internally, some sedative may be administered after the operation to quiet the nervous system, as Morphia, &c., and if the part continue very painful, some preparation of Opium, or Soft Extract of Belladonna may be applied upon it. The bowels must be kept regular. It has been stated that the actual cautery is the most certain and rapid mode of cure; merely touching the extreme end of the tumor,—which is generally removed in one application.

Malignant tumors may occupy any portion of the external genitals, and are generally accompanied with similar abnormal conditions of the uterus; they are seldom curable, though sufferings may be palliated, and life prolonged in some instances, by their removal.

IMPERFORATE URETHRA.

Beside the cohesion of the labia, the urinary discharge may be prevented by the meatus urinarius, or some part of the urethral canal being closed by a thin membrane. This is more common among newly born infants, and may be suspected when there is no evacuation from the bladder, but a gradual swelling over its region, which is firm and more or less tender, the child strains and cries almost constantly, and the labia are found free, not adhering.

Treatment. When the membrane can be seen at the meatus, it should be punctured, and the parts be prevented from uniting by the introduction of a small catheter, or tent. If the urine escapes in small quantity and with difficulty, from a stricture in some part of the urethra, it may be dilated by the daily introduction of the bougie.

When the membrane cannot be observed, the operation is more difficult and hazardous. When the whole of the urethra is filled up, puncturing the bladder may be performed to evacuate the urine; but in such cases, the child usually dies whether an operation be performed or not.

THICKENING OF THE CELLULAR MEMBRANE SURROUNDING THE URETHRA.

This affection is more commonly met with among females who have given birth to several children. The cellular structure of the part becomes hardened and thickened, and the bloodvessels distended and varicose, more especially on walking or standing. It is owing to the vascular excitement of the parts during labor, and the irritation produced by the pressure of the child's head upon the urethra while being expelled through the pelvic cavity.

Symptoms. The patient experiences more or less heaviness about the part, which is much augmented when in the erect position, or when in motion. There is frequently a constant desire to urinate. Coitus and micturition cause pain. A discharge of a mucous character is always present; and in the more severe forms of the malady, the patient's health suffers considerably, especially when rest is broken.

An examination of the parts will discover the enlarged urethra behind the pubes, and by passing a finger into the vagina, the hardness may be followed along its whole extent, even to the bladder. Upon requesting the patient to bear down, after having separated the labia, a portion of the raised and tumid urethra will be seen, of a dark-red or purplish color, and spongy and tender to the touch; the color, as well as the swelling, are removed by pressure, but return as soon as this is discontinued. Not unfrequently, considerable local irritation is caused by the formation of a small pouch in some part of the urethra, in which a small quantity of urine is retained, and the existence of which pouch may be ascertained by passing in a catheter. In severe cases, there may be itching and burning of the parts; and occasionally, small abscesses form in the hypertrophied tissue, augmenting the sufferings of the patient

Treatment. The patient must be kept quiet in the horizontal posture; and a solution of the Nitrate of Silver be applied to the parts. This may be brought into contact with the parts by injection, or by passing a catheter in which is concealed a rod with a piece of wool or sponge upon its end; the sponge being moistened with the solution, introduce the catheter, then

remove it, and lastly draw the rod slowly through the urethra. Otner agents have also been found very beneficial, as Solution of Sulphate of Zinc, Solution of Alum, Compound Myrrh Lotion, Compound Lotion of Golden Seal, Compound Lotion of Zinc, Lotion of Golden Seal and Aconite, together with the occasional application of the Compound Tincture of Myrrh. Perchloride of Iron is also useful.

The patient must be prohibited from indulging in coitus, the diet should be light, bowels kept regular, and the pouch named above, must be frequently evacuated by catheter. Sleeplessness and irritability of the nervous system must be combated by proper doses of Opium, Sulphate of Morphia, or Extract of Hyoscyamus, &c. Scutellarin, Cypripedin, Lupulin, or their fluid extracts will answer this purpose in most instances. For debility, tonics may be administered.

In obstinate cases, it has been advised to puncture or scarify the tumid bloodvessels, applying some cold astringent solution afterward; and when the irritation of the part ceases, compress the vessels by bougies, or by a roll of linen thoroughly moistened with one of the above named solutions; be careful to so place it, that it will not fall into the bladder.

I have sometimes met with instances where the female complained of a very painful sensation along the urethra, both during urination, and for some minutes afterward. Internal remedies of any kind have afforded no relief, but, the application of a small quantity of soft extract of Belladonna, or of Stramonium, rubbed externally upon the part and along the course of the urethra, has proved very efficacious. In a few instances, this painful condition of the urethra appeared to be owing to the improper management of forceps during an instrumental delivery, by which some injury to the part was effected.

Ulcerations of the Urethra, and *Granulations* of its mucous membrane, are sometimes met with, and may be treated by locally applying one of the above named solutions; slightly diluting the solution if it acts too severely.

NYMPHOMANIA.

Nymphomania, sometimes termed *furor uterinus*, is an abnormal, violent, ungovernable desire for sexual congress, being frequently associated with obscene actions, and coarse, indecorous language; sometimes it occurs in a minor degree, as among hysterical females. It may attack females from an early age in childhood to the period of menstrual cessation, or even later than this.

Symptoms. At first the sexual passion is slight, occurs periodically, usually during, shortly previous to, or a few days after menstruation, and the female endeavors to conceal her desires; she isolates herself from society that the libidinous fancies engendered in her imagination may not be disturbed; her nights are sleepless, and there is more or less derangement of the digestive organs. As the malady slowly progresses her desires become stronger, the brain becomes more irritated, and she rather courts than avoids the opposite sex. On the approach of a man her agitation is extreme, her breathing becomes hurried and heavy, she sighs frequently, her face becomes flushed, the eyes are languishing and full of desire, and she places herself in attitudes to attract and excite. Not unfrequently the society of a male will so excite the patient, that a venereal orgasm will occur spontaneously.

In the more violent forms, she does not hesitate to expose her person, beseeching the male to satisfy her desires; coaxing, begging, raving and rushing with dangerous intent at every one who checks or endeavors to interfere with her demands. This may, by proper treatment, be subdued, or it may run into a furious insanity, terminating fatally. Occasionally Nymphomania, instead of gradually developing itself, attacks suddenly and with great violence.

Accompanying these manifestations, there is a sense of heat and itching about the reproductive organs and breasts; the mucous covering of the external genitals is redder than natural and more or less swollen, and frequently a thin, offensive, or a purulent discharge, issues from the parts. The system generally sympathizes, as manifested in the great thirst, quick breathing, palpitation of the heart, urinary derangement, bryg

mus, and spasms or convulsive attacks. Sometimes the disease assumes a remittent or intermittent form, being, however, readily aroused whenever any exciting cause presents itself.

When nymphomania occurs among masturbators, the female loses all moral restraint, and rapidly destroys her health, by artificially exciting the venereal orgasm frequently, whenever an opportunity offers. She may be bold and public in this habit, but more generally will be found to manifest much artfulness, deception, and disingenuousness.

Causes. Nymphomania is generally due to some irritation of the generative organs, with which the brain sympathizes, as, excessive coitus, pruritus of the vulva, enlarged and irritable clitoris and nymphæ, ovarian or uterine disease, &c. Again, the brain may be primarily irritated, while the genitals are only sympathetically excited, as is apt to be the case with those who devote themselves to the reading of obscene works, or the studying of indecent engravings; who associate with the licentious; who are exposed at balls, parties, and the theater, to influences calculated to provoke erotic thoughts and desires; or who make free use of stimulants, spirits, wines, &c. The use of Opium sometimes occasions a transient and moderate nymphomania. Masturbation is a common cause of this malady among young females, which is often practiced as early as eight or ten years of age, and persevered in for many subsequent years.

Females who masturbate will rarely acknowledge it, unless they consider their lives in danger. As a general rule, they may be known by their pale countenances, lack of fulness in the face, dilated pupils, dark circle around the eyes, palpitation of the heart, hysterical attacks, fondness of solitude, diffident behavior, and a hesitation or constraint in replying to the ordinary interrogatories relative to health. Generally, the nails of the index and second fingers will have small sores in their neighborhood, or one or more very rough and broad warts, not easily removed by the usual means.

Females of strong sexual passion, widows, and those whose affections are concentrated, or who have been disappointed in love, are supposed to be the peculiar subjects of this disease;

but, undoubtedly all are alike liable to it, when the exciting causes are present in sufficient degree.

Treatment. In the treatment of nymphomania, the physician must distinguish between those cases in which the brain is primarily affected, and those in which the primary irritation exists in the genital parts.

When the malady has its origin in cerebral excitement, the bowels must be kept regular, administering an active cathartic occasionally, as a revulsive. Cooling applications to the head and also to the genitals, with warm pediluvia every evening previous to retiring for the night, will be of service; together with a mustard poultice along the whole spinal column. In severe and obstinate cases, a discharge kept up for some time, from the back of the neck, or from the occipital portion of the cranium by means of the Croton Oil Liniment, or Compound Tar Plaster, will tend very much to lessen the irritable condition of the brain. And when there is violent excitement of the genitals, the discharge may be maintained from the lumbo-sacral region. Cooling diuretics must likewise be used, as an infusion of Cleavers and Marsh-mallow root. The surface of the body should be frequently bathed; the diet should be light, principally vegetable; and the mind should be kept constantly occupied with matters having no bearing whatever upon the sexual passion; parties, balls, theaters, the society of the male sex, and everything calculated to produce lascivious ideas must be positively avoided. Moderate exercise is also beneficial. The beds on which the patient sleeps must not be too soft, nor should too much covering be allowed; and in order to produce sleep, anodynes may be administered every night, either by mouth or by rectum. And, especially, when masturbation is pursued, the patient should be under the constant superintendence of a female friend, both by day and by night.

In those instances where masturbation is an exciting cause of the malady, or accompanies it as a result, in addition to the above measures, the patient must abandon the habit, and every means must be used to accomplish this object. The cold douche, applied to the head and along the spinal column, will be found very efficacious, especially if the patient can have sufficient moral power to inform the physician or attendants

when the masturbating desire is on, in order that the douche may be employed at such times. Cold hip-baths may likewise be used. If there be much irritation of the clitoris, the Nitrate of Silver in solution, (ten or twelve grains to a fluidounce of water,) should be applied to the clitoris and nymphæ, and its use continued for a number of days in succession. The venereal sense may frequently be diminished by the internal administration of the Inspissated Juice of Conium Maculatum, or, by freely partaking of an infusion of Sage, of the leaves of Gnaphalium Polycephalum, (White Balsam,) or, of the aments or catkins of Black Willow, (Salix Nigra). But the cultivation of moral strength is the best antaphrodisiac.

When nymphomania occurs intermittently, some anti-periodic agent must be used; a very good one is the Inspissated Juice of Conium Maculatum one or two grains, mixed with an equal quantity of Sulphate of Quinia,—to be given for a dose, and repeated three or four times daily. When the clitoris is very sensitive and irritable, not yielding to local applications, or when it is elongated, treat it by excision or otherwise, as named under the treatment for Enlarged Clitoris, on page 21.

Though it may be proper to remark, that although excision of the clitoris will check masturbation, it will exert little or no influence in removing a nymphomania in which great cerebral excitement is present.

If the genital irritation be kept up by a leucorrheal discharge, make use of the means recommended under Leucorrhea. Worms in the rectum often cause much irritation and itching of the parts, and must be removed by vermifuge injections. Nymphomania caused by pruritus of the sexual organs, must be treated as named under Pruritus of the Vulva, on page 38. When occasioned by the use of cantharides, diuretic mucilaginous infusions, together with small doses of Camphor, and the use of the hip-bath, will generally afford relief.

When nymphomania is very violent in its character, the patient losing all control over her mind and actions, and becoming furious, it will require to be treated as insanity.

Should the patient be very feeble, it will be necessary to improve this condition of the system, by nourishing but easily digestible diet, moderate exercise in the open air, chalybeate or

vegetable tonics, and all other means calculated to invigorate without unduly stimulating. Traveling is very serviceable, and should be advised when the circumstances of the parties will allow.

LACERATION OF THE PERINEUM.

Laceration of the perineum, is one of the most disastrous casualties to which parturient females are liable, and especially those with their first children. When the laceration is not extensive, being limited to the fourchette, it rarely occasions any discomfort, and junction of the torn edges may be effected by keeping the patient on one side in the recumbent position, with the thighs constantly closed. When, however, the rupture is more extensive, the consequences are truly distressing, and are frequently irremediable; though the improvements in modern surgery have been such as to render its treatment more successful than heretofore. The principal difficulties in the management of these cases have been the tendency to inflammatory action, suppuration or sloughing; the formation of mucous covering over the lacerated margins, instead of reunion by first intention, or by granulation; the interruptions occasioned by the evacuations from the bladder, and more especially from the rectum; and the formation of hard, unyielding cicatrices, rendering the parts subject to a renewal of the laceration in subsequent parturitions.

This accident is divided by surgeons according to its situation and extent, into four varieties:—

1. In which the laceration extends into the perineum not over an inch from the posterior commissure of the vulva. This variety will rarely, if ever, require an operation; a cure is commonly effected by keeping the parts clean, while the patient lies quiet, with the thighs closed. A purgative may be administered at the commencement, after which constipation should be induced for a time. A dossil of lint may be placed over the vaginal surface of the rent, for the purpose of protecting it as much as possible from the vaginal and urinary discharges, renewing it from time to time as may be required.

2. In which there is a perforation of the perineum through its central part, its vaginal and anal extremities being uninjured. In this variety, the constrictor vaginæ muscles which contract the vaginal entrance, and the sphincter ani muscle around the anus, are not touched; this accident is not very common. Cases have been recorded where the child has actually passed through the opening thus made. This form of laceration requires surgical aid.

3. In which the laceration extends from the fourchette to the sphincter ani, leaving this muscle uninjured. This variety, although it does not necessarily interfere with the offices of the rectum, occasions several displacements, with great distress, owing to the failure of the support to the viscera above by the perineum; as, prolapsus uteri, descent of the bladder, or of the rectum, &c. An operation is always required in this form, for should the parts heal and unite spontaneously, there is apt to be a degree of deformity produced, disposing to uterine and vaginal prolapsus. The treatment will be similar to that hereafter described.

4. In which the laceration extends from the fourchette to the anus, the sphincter ani being separated, as well as, in many instances, the septum or partition which lies between the rectum and vagina. The vagina itself is likewise frequently divided for some distance, so that it forms with the rectum but one canal, at their inferior extremities. This is the most distressing variety of laceration of the perineum, being accompanied with all the dreadful symptoms or consequences common to such an accident. Heretofore, it has been viewed as an incurable malady, but its successful treatment is one of the triumphs of modern surgery.

These lacerations do not invariably extend along the median line of the perineum; sometimes they pass toward one or both thighs, the rent part resembling an L or a ⊥; at other times they run diagonally; and again occur in the shape of a V or Y.

Symptoms. When the rupture is slight, no very serious evils will result; but when it is extensive the consequences will be more or less afflictive in proportion to its severity. The viscera of the abdomen and pelvis are supported, in their normal positions, from below, by the perinum, and when this

support is removed, as by laceration, the following evils will ensue: a sense of weight or dragging from the sides and loins; weakness or pain in the back; prolapsus of the uterus; relaxation and descent of the vaginal walls; descent of the bladder, or of the rectum; leucorrhea; disqualification for moving about to any great amount; a sense of "all goneness," or "falling through" at the lacerated parts. When the rent divides the sphincter ani, the feces as well as the flatus escape involuntarily, and the offensive odor arising therefrom, notwithstanding all the cleanly precautions of the patient, will render her repulsive to her friends; and this state of wretchedness may be augmented by her becoming an object of disgust to her husband, and perhaps losing his affection. It is impossible for a female to be placed in a more sorrowful and mortifying situation.

While the lochia continues, its contact with the lacerated edges will interfere with a spontaneous union of the parts; the edges occasionally becoming hard and insensible, or even ulcerating.

Causes. Laceration of the perineum generally occurs during labor, and is but rarely the result of external injury. It is frequently occasioned by the rapid and forcible contractions of the uterus which drive the head of the child upon the parts at the outlet, before they have become sufficiently soft and yielding. This rapid advance of the head may be more especially met with in cases where the hollow of the sacrum is shallow, its internal surface not having a sufficient degree of concavity; where the head is small; where the pelvic diameters are abnormally large; and where ergot has been administered injudiciously.

Again, the perineum may be excessively rigid and unyielding, when the ordinary amount of pressure exerted upon it by the advancing head, will frequently cause it to rupture. Or, the perineum may be very long, extending so far forward, as to receive the force of the advancing head at its central portion, and instead of passing to the outlet under the pubic arch, the head presses upon and distends the perineum, forming a kind of bag. Or, there may be a feebleness, from disease, or a peculiarity in the structure of the perineum, disabling it from

offering any great amount of resistance to the advancing head.

Deformity of the pelvis, or any abnormal growth in the pelvis that will propel the advancing head more especially upon the perineum; a narrowness of the pubic arch; a thickening of the urethra; an imperforate hymen; and a mal-presentation or mal-position of the fetal head, have all been named as causes of the accident under consideration. Females who marry at an early age, and give birth to offspring before the parts have attained a proper condition, are subject to lacerations.

Among the most common causes of rupture of the perineum, are the following: neglect to support the perineum during the passage of the head through the outlet,—or, more frequently, giving the support in an improper manner; manipulating carelessly or ignorantly, whether with the hand or instruments; and, permitting the female to bear down too forcibly at the period the head is being born, the uterus at the same time contracting with sufficient power and energy.

Prevention. Although laceration of the perineum may occur in the practice of the most experienced accoucheur, and under the most judicious and careful management, yet there is no doubt that it frequently ensues from inattention to or mismanagement of the perineum at the time the head and shoulders are passing through the outlet. The rule given by authors to "support the perineum" as the child is being delivered, will be found advantageous in some cases; but from the manner in which this support is given by most obstetricians in actual practice, I am inclined to believe that were the rule generally dispensed with, it would be better for the patient. Pressure upon the perineum undoubtedly occasions the uterus to contract more energetically, in consequence of which, when the head is at the inferior strait, the perineum is more forcibly distended, and this augmented expulsive power, aided by the support or pressure being given in a wrong direction, will be almost certain to produce a rupture.

However, there are certain conditions during delivery in which a well directed support will tend very much to lessen

the chances of perineal rupture, in the majority of instances preventing it entirely; they are—

1. When the uterus is rapidly expelling the child, before the perineum is sufficiently yielding, moderate pressure must be made, not for the purpose of retarding the advance of the fetal head, nor for carrying the perineum backward so as to cause it to pass over the head,—pressure made for these purposes will hasten rather than retard the accident to be avoided. Some practitioners press the perineum against the head, knowing no reason therefor, save that the books recommend it; and the *direction* of their pressure is the result of chance, not of practical skill or knowledge. In the instance just named, the pressure must be made during the presence of a pain only, and in the direction of the axis of the inferior strait, thereby carrying the perineum and fetal head downward and forward, so that the head will be thrown under the pubic arch, while that portion of it in contact with the perineum will safely glide over it. Pressure given at any time, in any other direction than the one just named, is exceedingly improper, and liable to cause injury.

2. The same course of management should be pursued in those cases where the fetal head is found pressing backward instead of forward, or upon the rectum and perineum; also, where the head distends the central portion of the perineum, forming a kind of bag in which it is retained. In the latter instance it may be useful to introduce two fingers toward that portion of the head next the rectum, in the absence of pain, and press it upward toward the pubic arch; but no attempts, whatever, must be made to enlarge or dilate the parts at the outlet.

3. A rigid, unyielding condition of the perineum, may be overcome by a warm poultice composed of equal parts of Hops and Lobelia, with a sufficient quantity of soft soap suds, aided by injections into the rectum of the Compound Tincture of Lobelia and Capsicum,—two fluidrachms of which may be used at a time in combination with an equal quantity of warm water, the patient retaining the injection as long as possible. The inhalation of Chloroform will overcome the most obstinate cases of rigidity in ten or fifteen minutes.

4. Under no circumstances should Ergot be given to expedite delivery, until the perineum is soft and yielding, and the head presenting properly, low down in the pelvis.

5. When the head is at the inferior strait and the uterus is acting with sufficient energy to expel the child, the female should be advised not to bear down with force, especially when the perineum is unyielding. Indeed, in such cases, it will be better not to bear down at all.

6. When the uterus is rapidly and forcibly expelling its contents, the soft parts not having had time to become yielding, the action of this organ may be much diminished by doses of Opium, or by the inhalation of Chloroform, in accordance with the circumstances and idiosyncrasies of the patient.

7. A rigid hymen may eventually give rise to laceration, but which may be avoided by incising it in a transverse or oblique direction; using a blunt-pointed knife.

8. All manual or instrumental aid, should be given without violence or roughness; and no one should attempt them until he is thoroughly versed in the proper obstetric rules concerning the indications for such interference, as well as the most efficacious methods of conducting the operations.

Treatment. In the earlier period of surgery, this accident was deemed incurable, and even in Merriman's time, we find the following in his "Synopsis," page 110,—"The cure of a lacerated perineum is very difficult—in some cases impossible. If, indeed, the rent does not extend through the sphincter ani, the torn parts will sometimes coalesce so as to form a tolerable perineum; but when the laceration passes quite into the rectum, a cure is rarely perfected." But at the present period, perineal laceration can be remedied by the resources of modern surgery.

Rest, the recumbent position, and cleanliness, generally succeed in curing the slighter varieties of laceration, as has already been named, but in the more severe forms an operation is the only reliable mode. Various methods of operating have been advised by surgeons, among whom may be named Ambrose Pare, Guillemeau, Saucerotte, La Motte, M. M. Dubois, M. Roux, Trainel, Noel, Dieffenbach, Menzel, Morlanne Osiander, Langenbeck, Verhaeghe, Davidson, Mettauer, Lever,

Hilton, Brown, and several others, but it is unnecessary tc name their several plans, as the one deemed the best is that recommended by the last named gentleman, Dr. Isaac B. Brown, Surgeon—accoucheur to St. Mary's Hospital, London. And I especially recommend his work, entitled "On some Diseases of Women admitting of surgical treatment," to the profession, to which work I would state, as I have omitted quotation marks, that I am indebted for the following description of his operation.

He maintains that by his operation, 1,—the worst forms of lacerated perineum, of however long standing, may be cured; 2,—that it should be resorted to immediately on the occurrence of the accident; and 3,—that subsequent parturition is possible without injury to the restored perineum.

The *contra-indications* to the operation are, 1. The presence of inflammation and suppuration, in which case it must be delayed until these processes are arrested. 2. If pregnancy has advanced beyond the fourth month, the operation must be postponed until after delivery. 3. Leucorrhea, not readily removed by simple means, must be overcome before operating. 4. It must not be attempted when the menstrual flow is present. 5. Cough, which causes more or less straining, must first be relieved. 6. As any impairment of the general health interferes more or less with the success of the operation, this should first be improved by the proper measures.

As to the *time of operating*, he recommends its performance immediately after the delivery, while the surfaces of the wound are fresh, and more favorably disposed to unite by the first intention; beside, by operating thus early, the paring of the edges, required in old cases, is dispensed with. The accurate apposition of the torn surfaces, will prevent any irritation from the lochia and other secretions, more especially when there is a rigid attention to cleanliness, and an employment of vaginal injections, as hereafter named; beside which, the tendency to inflammation will be much less than when the torn edges are exposed to irritation from the contact of the secretions.

Should the operation not be performed on the day of the delivery, he advises its postponement until after the third

month, by which time the parts, having recovered their tone, will be capable of undergoing the required denudation, as well as sufficiently strong to carry the sutures. After the day of delivery, the discharges from the vagina coming in contact with the torn edges, render them more unfavorably disposed to heal, hence the delay in operating.

Fig. 2.

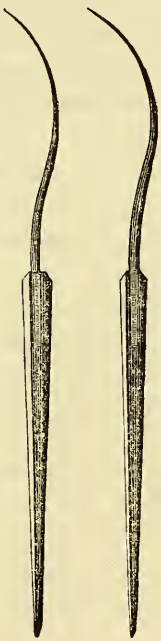
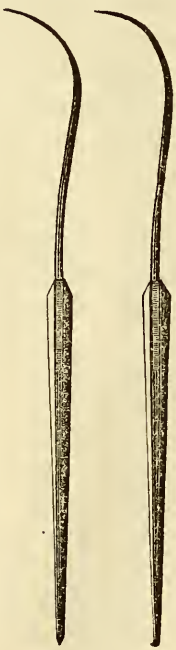


Fig. 3.



These figures represent one half of the size of the instruments actually used.

The *instruments* necessary are, a common straight scalpel, for denuding the edges, when this is required; a blunt-pointed straight bistoury, to divide the sphincter ani; a pair of long dissecting forceps; three large, strong needles for deep sutures, fixed in handles, and more or less curved to adapt them to different cases, as the width of the perineum and the thickness of the tissues vary considerably in different persons, [*see figs.* 2 *and* 3]; small needles for the superficial interrupted sutures;

a tenaculum; pieces of gum elastic catheter or bougie, to apply as the quills to the suture; sponges, &c. For the deep sutures he prefers stout twine, well waxed; though catgut, lead or soft iron wire will be found to answer equally as well. Two assistants, at least, will be required.

Immediately previous to the operation the bowels should be thoroughly evacuated by Castor Oil or other laxative, aided by injections of salt and water; and afterward, the bladder should be emptied. In old cases, an attention to the cutaneous surface will be found beneficial, either by sponging with warm water daily, or by the use of the warm bath; the diet should, for several days previous to the operation, be light, nutritious, easy of digestion, and of a non-stimulating character.

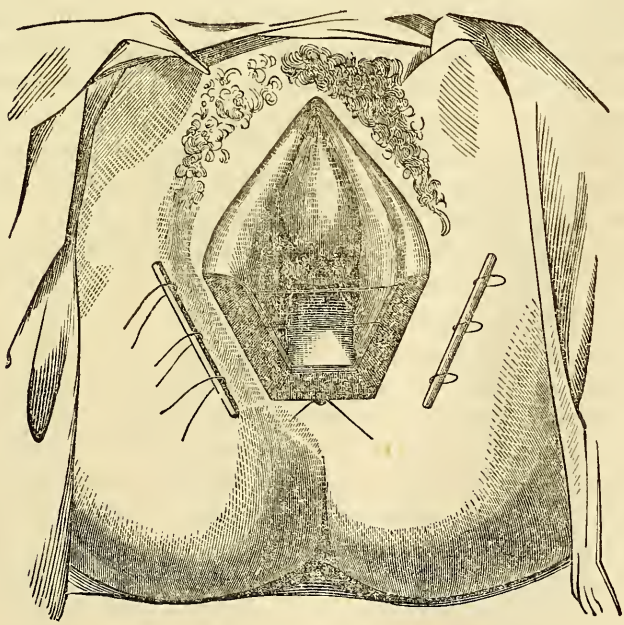
Anæsthesia by Chloroform, when not objected to, nor contra-indicated, is very desirable, as it saves the patient from the pain of the operation, prevents straining and opposition, and causes a favorable relaxation of the parts.

The mode of operating. The patient must be placed in the position for lithotomy,—that is, upon a good stout table, sufficiently high for the operator to proceed with ease; she should lie upon her back, with the breech somewhat over the margin of the table, and the knees should be well flexed upon the abdomen. Place a noose around the patient's wrist, separate the knees, and request her to grasp with her hands the outer margins of the feet; when the hand and foot of each side should be firmly fastened together, by the two ends of the noose attached to the corresponding wrist of either side. All hair should be closely shaved off about the parts, and each knee should be supported and be well bent back upon the abdomen by an assistant. The operator may sit or stand in front of the perineum, having his instruments where he can readily reach them, or, they may be handed to him by an assistant.

In recent cases no paring of the torn edges will be required; in old standing cases it will. An assistant should hold the sides of the fissure, so as to insure sufficient tension for the operator, who freshens or denudes the rent surfaces on each side with the scalpel, removing from each side of the rent any portion of mucous membrane. Dr. Brown's explanation of

this part of the operation, as found in his work above alluded to, is not perfectly clear. He says: "A clean incision is now to be made about an inch external to the edges of and equal to the fissure in length, and sufficiently deep to reflect inward the mucous membrane, and so to lay bare the surface as far as another incision on the inner margin. [*See Fig.* 4.] The denudation of the opposite side of the fissure is then to be practiced in a similar manner, and the mucous membrane from any intermediate portion of the recto-vaginal septum must also be pared away. This denudation must be perfect, for the slightest remnant of mucous membrane will most certainly establish a fistulous opening when the rest of the surfaces have united."*

Fig. 4.



Shows the denuded surfaces and the insertion of the quill suture before the parts are brought together, and also the division of the sphincter on each side of the coccyx.

* In Braithwaite's Retrospect, Part. xxvii. p. 196, the direction is somewhat clearer. After directing to secure the patient and shave the parts, he continues: "Then each assistant should hold the sides of the vagina and perineum, so as to insure

Having completed this part of the operation, the sphincter ani is to be divided on both sides, about a quarter of an inch in front of its attachment to the os coccyx, by an incision carried outward and backward, as represented in Fig. 4. The incision should be made with a blunt-pointed straight bistoury, which, having been introduced within the margin of the anus, guided by the forefinger of the left hand, is quickly and firmly carried through the fibers of the muscle, and through the skin and subcutaneous areolar tissue to the extent of an inch, or even two, external to the anal orifice.

The object in dividing the sphincter ani is to produce relaxation, and thus prevent the inner edges of the rent being drawn apart, thereby hindering the lochia from penetrating into the wound; and if this incision be omitted, the inner edges of the fissure will be gradually drawn asunder to a greater or less extent, by this muscle, after the removal of the sutures, thereby materially interfering with the cure. The degree of relaxation to be sought must be regulated by the extent and character of the laceration; it being remembered that the freer the incision the greater will be the amount of relaxation obtained. In every case, muscular traction must be destroyed, for so long as it exists it will oppose the union of the parts.

After the division of the sphincter ani, the quill sutures are to be introduced, for which purpose the thighs are to be brought together; then, with the forefinger and thumb of the left hand, the denuded surface on the left side, together with the tissues external to it, are to be firmly grasped, while the right hand is occupied in passing the suture. The needle, carrying a double twine, is thrust through the skin and subjacent tissue, about an inch beyond the external edge of the pared surface, and carried on deeply downward and inward, until its point is made to issue at the inner edge of that surface; it is then thrust into the corresponding inner edge of the

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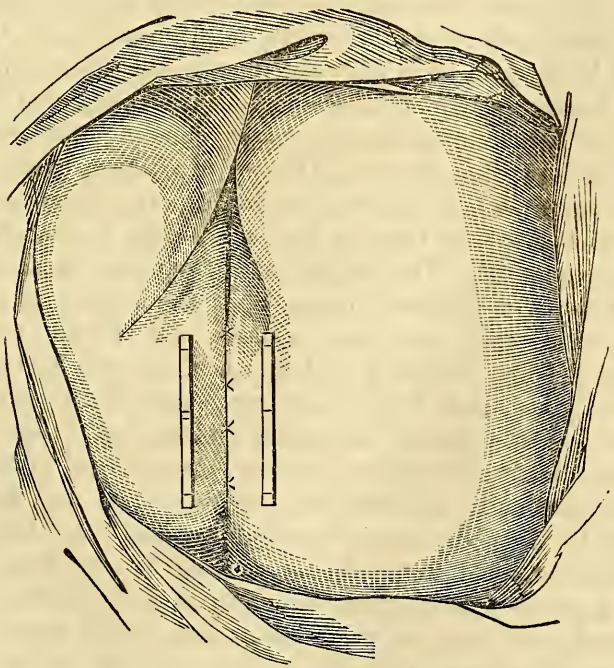
sufficient tension for the operator to make a clean incision, with a scalpel, down into the vagina, about three quarters of an inch on each side, removing carefully and thoroughly the mucous membrane. Having done both sides, there would still remain a space covered with mucous membrane between those two sides, embracing the edges of the rectum where the sphincter was lost; this must also be carefully denuded,—very carefully, because, if there remained the slightest portion of mucous membrane around, or even near to the rectum, then most certainly there would be a recto-vaginal fistula after the restoration of the perineum."

opposite denuded surface, and made to pass beneath it in an upward and outward direction, until its point reappears externally at the same distance from the external edge of the denuded surface on the right side, as that at which it entered on the left side. Three sutures are to be introduced in the same way, at equal distances from each other, the first one as near the rectum as possible, without piercing it.

The twine for each suture is double, that it may enclose the quills, or pieces of elastic bougie, around which it loops on one side, being tied over, by its free ends, on the other.

The denuded surfaces are now brought in apposition, and the three sutures firmly secured upon the bougie. This accomplished, the outer margins of the fissure, along the line of the skin, should be brought together by three or four interrupted sutures, carefully introduced, which will cause a speedy union of the skin, and materially facilitate that of the deeper parts. [*See fig.* 5.]

Fig. 5.



Shows the part brought together by the deep and interrupted suture.

The operator should now pass the index finger of the right hand into the vagina, and that of the left hand into the rectum, so as to ascertain that apposition is complete throughout,—for should an opening be found, it will become necessary to introduce another suture through the vagina and rectum, in order to effect an accurate contact of every portion of the fissure. The whole operation may occupy about an hour.

Lastly, the parts having been perfectly cleansed by sponging with cold water, a piece of lint wet with cold water is to be applied, and over it a napkin kept in place by a T bandage, and this cold water dressing should be renewed every three or four hours, continuing it as long as required. Should there be much bleeding after the operation, not arrested by the simple water dressing, small pieces of ice may be introduced, into the vagina, or ice-water may be injected therein; the ligature or torsion are seldom required.

The operation concluded, the patient is to be placed in bed, lying on her left side, with the hips on a water-cushion, the thighs and knees close together, and flexed on the abdomen, and perfect quiet must be enjoined. Two grains of Opium should be given at once, and subsequently one grain every four or six hours; the Opium allays nervous irritability and diminishes the risk of inflammation, thereby tending powerfully to promote the healing process. It likewise produces constipation of the bowels, which is a very important part of the treatment, and which should be kept up for two or three weeks after the parts have united. The patient may frequently suck ice for twenty-four or thirty-six hours after the operation; it will prove refreshing, and allay nausea and febrile reaction. During the first twenty-four hours beef tea and arrow root may be given, and, if there are any signs of flagging, Port Wine—but not without. After this period, should there be no contra-indicating symptoms, three or four ounces of Port Wine may be used daily, and after the second or third day, the diet should be generous, consisting of strong beef tea, chops, &c. Injections of tepid water should be used two or three times daily, together with frequent sponging, in order to remove the secretions and keep the parts clean; and should there be an offensive discharge, Chloride of Soda may be added. The

wound requires the constant personal watching and attention of the surgeon for some twelve or fifteen days after the operation.

The urine must be drawn off by the catheter every four or six hours, continuing this regularly for several days after the operation. As the patient lies upon her left side, the catheter should be introduced from behind, between the thighs; and in withdrawing the instrument, the thumb should close its external orifice, in order to prevent any urine remaining in it from escaping into the vagina, whereby it might cause such irritation about the wound as to render the attempts to heal it abortive. For the same reason, the parts should be carefully sponged with cold water, and every portion of secretion cleansed away each time, immediately after removing the catheter.

In the course of nine or ten days, if the healing go on satisfactorily, and the strength of the patient will admit, she may be allowed to urinate, resting on the hands and knees, so as to prevent as much as possible, a contact of the fluid with the lower or sutured surface of the vagina; carefully cleansing the parts afterward, as named in the preceding paragraph.

The deep quill sutures should be removed on the third or fourth day in hospital patients; in private cases, on the fifth or sixth. A longer retention is useless, and disposes to suppuration and sloughing. The external interrupted sutures may be taken away on the sixth or seventh day.

The constipation of the bowels by Opium should be persevered in for two or three weeks after the parts have united; no harm has ever been witnessed from this prolonged constipation. The precise time for opening them must be regulated by the strength of adhesion set up, and by the amount of reparation of lost tissue which has been attempted. When union has become firm and complete, the bowels may be relieved by injections of warm water with Castor Oil, and the latter given by mouth. Attention should be paid during the passage of the first evacuation, and support given to the perineum if any hardened masses should cause stretching; and for some few days after the first evacuation, the enema had better be continued.

Should adhesion, unfortunately, from any accident, not be complete throughout, and a fistulous opening remain in any part, the actual cautery is the quickest and surest means of closing it; but the application of a caustic or stimulating substance may be tried, as Nitrate of Silver, &c. When the process of granulation is tardy, it may be stimulated by painting the surface with vinegar of Cantharides. The various constitutional symptoms which may arise are to be treated on general principles.

The above are the general rules for Dr. Brown's plan, any slight variation from which may be made by the surgeon according to the particular circumstances attending each case. Several cases are related in his work, named heretofore, a careful perusal of which will tend much to aid the physician in forming a correct understanding of the operation.

My colleague, Prof. A. J. Howe, M. D., who has successfully performed this operation in several instances, recommends a silver plate upon which the ligatures are to be tied, and which wholly dispenses with the quill and interrupted sutures.

He says: "In closing perineal fissures the quilled suture is commonly employed, but there are some objections to it. The ligatures and quills uniformly compress the deep parts of the fissure, but the edges of the wound are not well coaptated and retained by them, even when aided by the interrupted sutures. In place of these sutures, I have used an oval silver disk, slightly longer than the external rent, and about three fourths of an inch wide, and sufficiently thin to enable one to mould it to the convexity, concavity, or flatness of the external perineal surface, as this may be. This disk has two rows of perforations on each side of its central line, at the distance of three lines from each other; each row contains as many perforations as there are ligatures used,—usually three. The walls of the rent having been abraded in the usual manner, and the ligatures passed,—the first one near the rectum, the second at a point corresponding with the inferior commissure of the vulva, and the other or others at points between these two, so as to place the ligatures equidistant from each other,—their ends are then to be passed through the perforations of the disk in the following manner:

instead of passing the extremity of the ligatures through the orifices immediately opposite to them or on the same side with them, they are to be carried through the corresponding apertures of the opposite row, so that the extremities of the ligatures on the right side of the fissure will pass across and beneath the plate and through the perforations on the left side, —while the extremities of the ligatures on the left side, will pass similarly through the perforations on the right side of the plate. This having been accomplished, the ends of each ligature are to be drawn through with sufficient force to approximate the edges of the wound, and at the same time bring the face of the silver plate in firm contact with the perineal surface, and then tied over that part of the disk situated between the perforations. The crossing of the ligatures brings the edges of the fissure in perfect apposition, and the surface of the plate keeps them steadily in place. In addition to the advantages named heretofore, this suture is more easily applied than the quilled. The subsequent treatment, will be the same as recommended when the quills are employed." In the College Journal of Medical Science, Vol. 1, page 241, will be found an interesting article on Laceration or Rupture of the Perineum, with a history of the various plans of treatment which have been proposed up to that time, by Prof. C. H. Cleaveland, M. D.

Fig. 6.

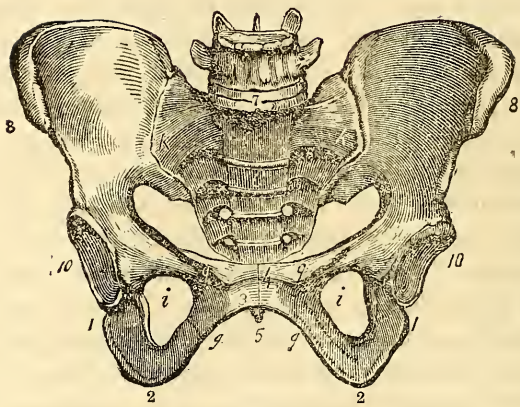


DIAGRAM OF THE PELVIS.

N. B. The figures and explanations are the same in cuts 6 and 7.

By the term "Pelvis" is meant the bony structure which forms the lower part of the body, and which incloses the rectum, bladder, vagina, uterus, &c.; and over the anterior part of which are found some of the external organs of generation. Its shape is conoidal, with the base upward.

1. 1. Ischiatic bones, forming the lateral portions of the lower extremity of the pelvis.

2. 2. The tuberosities of the ischiatic bones, being the lower part of the pelvis, on which the body rests when in a sitting posture. The branches g, g, passing upward from the tuberosities, toward the pubic arch, and in front of the openings i, i, are termed the "ischiatic branches," or "rami."

3. The pubic arch, situated in front of the pelvis, and immediately over which is located the orifice of the urethra, clitoris, anterior commissure of the vulva, &c.

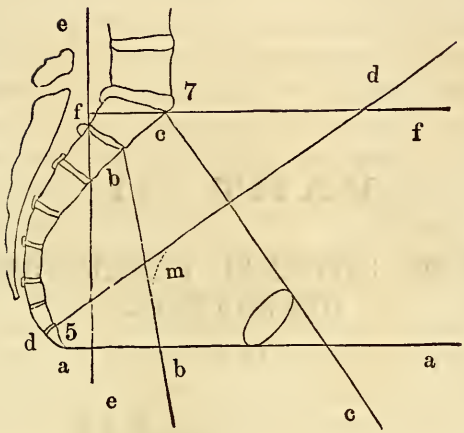
4. The symphysis pubis, or junction of the two pubic bones, is represented by the perpendicular line; immediately over this part of the pelvis is located the mons veneris.

5. The os coccyx, or last bone of the spinal column, situated immediately behind the rectum; a line drawn from the pubic arch to the apex of the coccyx, and from the lower extremity of one tuberosity of the ischium to that of the opposite one, will give the direction of the *outlet*, or inferior strait. The plane of the inferior strait is in the direction of the line from the pubic arch to the extremity of the coccyx *a*, *a*, fig 7, and the axis of this strait is an imaginary line let fall perpendicularly to its plane, the direction of which is shown by the line b, b, in fig. 7. In the cut the os coccyx is made longer than natural, for illustration.

6. The sacrum. This bone is the last but one of the spinal column, and is situated immediately above the os coccyx. The front or internal surface of the sacrum is concave, and is called the "hollow of the sacrum." The space between the sacrum and pubic bones, extending vertically from the superior to the inferior strait, and containing the rectum, vagina, &c., is called the "pelvic cavity."

7. The promontory of the sacrum; this is a jutting out of the sacrum at its upper part. A line drawn from the center of the promontory of the sacrum to the upper part of the symphysis pubis, c, c, fig. 7, will give the plane or direction of the superior strait; and a line perpendicular to this, will give the direction of the axis of this strait, d, d, fig. 7.

Fig. 7.



The axes of the superior and inferior straits, d, d, and b, b, taken together as they pass within the pelvic cavity, give the direction of the axis of this cavity; the dotted lines at *m*, giving the neccessary curve to perfect this axis.

8. 8. The two iliac or hip bones; the upper edges of these bones are termed the "crests of the ilia."

9. 9. The two pubic or share bones, situated in front, immediately under the mons veneris.

10. 10. The acetabula, or cotyloid cavities. These are sockets or cup-like cavities in which the head of the thigh bone moves.

e. e. in fig. 7, is the direction of the spinal column when the person is erect; *f, f,* is a horizontal line at right angles to *e, e.* From these it will be seen that the planes of the superior and inferior straits, are not parallel, nor at right angles with the perpendicular axis of the body, *e, e.*

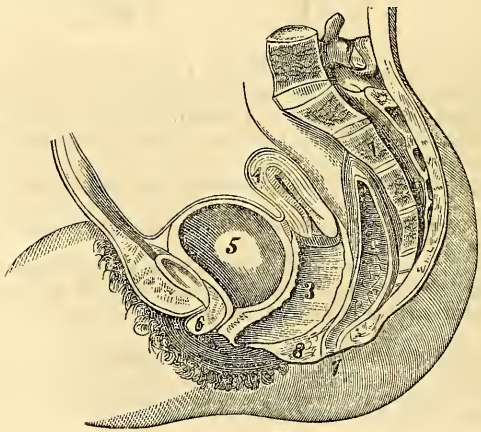
i, i, in fig. 6, are openings called the "obturator foramina."

K, K, in fig. 6. are lines indicating the points where the sacrum is joined to the iliac bones; these junctions are termed the "sacro-iliac symphyses," and are situated on each side of the back part of the pelvis.

PART II.

DISEASES OF INTERNAL FEMALE ORGANS OF GENERATION.

Fig. 8.



Section of the Pelvis, showing the internal organs. 1. The sacrum, at the lower extremity of which is situated the os coccyx. 2. The rectum, or intestine through which the bowels are evacuated. 3. The vagina, leading to the uterus. 4. The uterus, or womb. 5. The bladder; showing also the urethra, and meatus urinarius. 6. The pubic or share bone. 7. The anus. 8. The perineum, or space between the anus and vagina.

DESCRIPTION OF THE INTERNAL ORGANS.

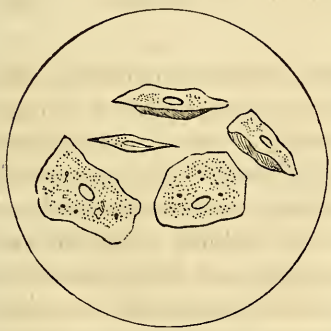
The internal generative organs of the female are, the vagina, the uterus, the fallopian tubes and ligaments, and the ovaries.

The *vagina* is the canal which passes inward and upward from the labia majora to the uterus, having the bladder and

urethra in front of it, and the rectum behind; it passes upward in a curved form, being nearly coincident with the axis of the pelvic cavity. It is five or six inches in length, and about one inch in width, though these measurements may vary according to circumstances. Its walls are soft, slightly flattened from before backward, and are about a line in thickness; they consist of an internal mucous lining membrane; a middle layer which is muscular and erectile; and an external, fibrous, contractile covering. The last two being more abundantly developed at the inferior portion of the vagina. The fibrous covering is a thin, white, lax tissue, more dense on its inner surface, through which are interspersed numerous elastic fibers and venous plexuses; it becomes gradually lost in the middle, red layer, which consists of veins, and smooth muscular fibers, running partly in a longitudinal direction, and partly in transverse bundles which encircle the vagina. The fiber cells are 0.03 to 0.09 of a line long.

The inner mucous membrane of the vagina extends to the external organs, covering the vestibulum, the meatus urinarius, the glans clitoridis, and the inner surface of the labia majora; the preputium clitoridis and the nymphæ, are formed of folds of this membrane. It is of a pale red color, and is thrown into numerous large and small folds, called the "columnæ rugosæ, or wrinkled columns. It is very sensitive at the lower part of the vagina, but at its upper portion possesses but little sensibility, except in diseased conditions. Its internal surface is lined with numerous large papillæ, from 0.05 to 0.09 of a line in length, and from 0.02 to 0.04 of a line in breadth, and which are larger at the vaginal entrance than beyond. These papillæ are surrounded by tesselated or pavement epithelium, 0.06 to 0.001 of a line thick, the cells of which are almost always to be found in the urine passed by females, being the largest epithelial cells in the body, and presenting distinct nuclei, usually oval,

Fig. 9.



Scaly or pavement epithelium from the vagina.

and about 0.002 of a line in diameter. The papillæ are sometimes found in twos or threes, from a common center; and the layer of epithelium is more abundantly developed at the upper portion of the vagina. These two elements, the papillæ and epithelium, are intimately connected with vaginal leucorrhea. Mucous follicles and glands are found just within the vaginal orifice, but are lost or scattered as the vaginal mucous membrane ascends.

The "plexus retiformis," or "bulb of the vagina," is situated at the vaginal orifice; it is a compact, spongy, erectile tissue, of a whitish or bluish hue, about ten or twelve lines in breadth, and two or three in thickness; it consists of veins anastomosing in a complex manner, and surrounded by fibrous tissue. It lessens the diameter of the vaginal orifice during copulation, by its contraction. The "constrictor vaginæ," or "sphincter vaginæ," are small muscles on the outside of the plexus retiformis, which have their origin just below the clitoris; they pass downward on each side of the vagina, and are lost in the external sphincter ani and transversalis perinæi muscles; they contract the entrance into the vagina, and depress the clitoris. At the orifice of the vagina are also situated the hymen, nymphæ, &c.

The upper extremity of the vagina encircles the neck of the womb in such a manner as to form a circular fissure or pocket around the neck, which is termed the "cul de sac;" and as the peritoneum is situated immediately behind this part of the vagina, injuries effected at this point by instruments, are apt to terminate fatally.

From the peculiar character of the tissues constituting the vagina, it is very elastic and extensible, as manifested during delivery, when the child's head is being expelled through it; and from these conditions it is very liable to become relaxed or even prolapsed, when there is any long continued malady of the womb or bladder. Morbid growths seldom affect the vagina, except encysted tumors and polypi; and when cancer is met with, it will most commonly be found merely an extension of the same disease affecting the uterus,—when the vagina is primarily the seat of the disease, this will be of the fibrous or

encephaloid variety. The usual diseases to which the vagina is subject, will be treated upon hereafter.

Fig. 10.

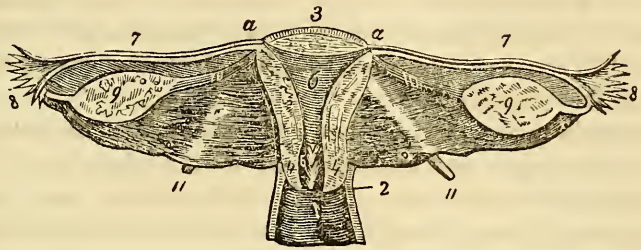


Diagram of a section of the internal organs. 1. Cavity of the vagina. 2. Vaginal cul de sac, around the neck of the uterus. 3. The uterus, the upper part of which is called the "fundus." 4. Neck of the uterus. 5. Cavity of the neck of the uterus. 6. Cavity of the uterus. 7. 7. The fallopian tubes. 8. 8. The pavilion or fimbriated extremity of the fallopian tubes. 9. 9. The ovaries. 10. 10. The ligaments of the ovaries. 11. 11. The round ligaments. *a. a.* The uterine orifices of the fallopian tubes.

The *uterus*, or *womb*, is a pear-shaped, hollow organ, situated at the upper extremity of the vagina, between the bladder and rectum, and below the small intestines. It is flattened from before backward, has its base upward, and its apex or neck downward. It lies somewhat in the direction of the axis of the superior strait, with its base inclining toward the bladder, and its apex toward the rectum; the vagina, together with the broad and round ligaments, keep it in place. In the adult it is about three inches in length, two inches in breadth at the base, and about one inch in breadth at the neck, and, when healthy, weighs from one to two ounces, being somewhat heavier among those who have had children than among virgins. It is quite small during childhood, as well as after the cessation of menstruation, and at the menstrual periods its volume increases considerably. All that part of the uterus above the openings into the fallopian tubes is termed the base or "fundus uteri;" between this and the contracted part, it is termed the body or "corpus uteri;" and the contracted part is called the neck or "cervix uteri," of which about half an inch extends into the

vagina below its adhesion to this organ. The mouth of the womb, "os uteri," or "os tincæ," is situated at the inferior surface of the neck.

The internal cavity of the uterus, which is so small as hardly to admit a split almond, is of a triangular shape, having the orifices of the fallopian tubes at its upper angles, and an aperture called the "os internum," leading into the cavity of the neck at its lower angle.

The walls of the uterus, when not impregnated, are about six lines in thickness, and are composed of muscular fibers, with fibrous and areolar tissue. The muscular fibers have, 1st, a thin external layer of longitudinal and transverse fibers, which, after covering the outer portion of the uterus, are extended upon the fallopian tubes and ligaments; 2d, a thick, middle layer, composed of strong bundles running longitudinally, and some transversely, and in which are contained the vessels which become so large during pregnancy; and 3d, a thin, internal layer, consisting of delicate longitudinal fibers. The walls of the uterus, internally, are nearly in contact, and generally filled with mucus.

The mucous membrane lining the surfaces of the internal cavity is thin, smooth, white, or pale red, and having ciliated epithelium, the cells being pale, about 0.016 of a line in size, and the delicate cilia vibrating from without to within. It is destitute of papillæ, but sometimes presents a few large folds. Numerous glandular follicles are contained in it, termed the "uterine glands," or "utricular glands of the uterus;" these secrete a small quantity of whitish mucus, and are lined with cylinder epithelium, which open separately or several together, having orifices one-thirtieth of a line in diameter. These follicles become greatly augmented during pregnancy.

The *cervix uteri*, or *neck of the uterus*, in its unimpregnated state, is from twelve to sixteen lines in length, flattened from front to rear, somewhat spindle-shaped, about half an inch in its transverse diameter at either extremity, and rather larger at its center. At the inferior extremity of the neck is situated the "mouth of the womb," "os uteri," or "os tincæ," a transverse orifice, which is the entrance into the cavity or canal of the neck. This orifice is well marked in women who have borne

children, or suffered from disease of the part, being from one to six lines in extent, and having an anterior and a posterior lip, the former being more prominent and rather thicker than the latter. In healthy virgins the os uteri is difficult to find, from the close approximation of the lips; it conveys a sensation to the finger similar to that produced by pressing the end of the finger upon the depression between the alæ nasi, at the end of the nose. When the uterus is in its normal position, the os uteri will be inclined toward the inferior part of the sacrum. The lips of the cervix are smooth and firm in virgins, but become larger, deformed, more open, and filled with irregular fissures of variable depth, among those who have borne children; the orifice in these latter cases will frequently be sufficiently large to receive the end of the finger. The transverse muscular fibers are very abundant about the os uteri, and are closely bundled together underneath the mucous covering, forming a sphincter.

The mucous membrane covering the external surface of the neck of the uterus, consists of a rather thick layer of tesselated or scaly epithelium, which is smooth on its outer surface and rough on its inner; underneath this layer is the basement membrane covering the numerous papillæ which line the entire mucous membrane. These papillæ are single, or several united upon one stalk, and when deprived of their coverings by disease they give a very irregular aspect to the os uteri, which may be mistaken for granulations. Each of these papillæ contains a looped blood-vessel, passing to its extremity, and returning to its base, where it commingles with the blood-vessels of the adjacent papillæ, and this fact may probably explain why discharges of blood from these parts so often occur when leucorrhea is present.

The points of the papillæ are nipple-shaped, when viewed under the microscope, a depression being seen in the center of each point; the papillæ contain numerous oil globules and granular cells. Beneath them are found fibrous tissue, blood-vessels, nerves, &c. Mucous follicles have been said to be contained on the surface of the os uteri, but they cannot be discerned under the microscope.

The cavity of the neck is the canal which forms a connecting

passage between the vagina and cavity of the uterus; it is from half an inch to an inch and a quarter in length, is more contracted at its extremities than at the center, being somewhat spindle-shaped, and is covered with a mucous membrane, whiter, denser and thicker than that lining the cavity of the uterus,—the former being from one to one and a half lines thick, the latter one-half to one line.

This mucous membrane is gathered into folds, forming four columns of rugæ, or wrinkles, which lie obliquely, transversely, or in a curved direction, between which are secondary longitudinal rugæ or grooves; sometimes ridges are present instead of grooves. Of the rugous columns, two are on the anterior internal surface, and two larger on the posterior, and the wrinkles in each column appear to be from ten to fifteen in number, those on the posterior surface being the most numerous. In health the transverse rugæ, and the intervals between them, are covered with a clear, thick mucus, beneath which, when wiped away, will be seen numerous secondary rugæ, giving a reticulated appearance to the mucous membrane. In some instances there may be only three rugous columns, or some of the secondary grooves may be absent; again, instead of the columns there may be a sieve-like appearance of the mucous membrane, &c. After child-bearing, the regularity of the above-named appearances of the mucous membrane, becomes more or less lost.

Under the microscope, a large number of mucous fossæ and glandular follicles are seen, crowding the depressions between the rugæ, and the rugous elevations also; so that a well developed virgin cervix uteri must contain at least ten thousand mucous follicles. Beside these, numerous papillæ are found, similar to those beneath the mucous membrane covering the external part of the cervix. The above rugous arrangement seldom extends so low down as to be seen at the os uteri, there being, generally, a slight rim, or a small tract of smooth surface between it and the rugæ. During labor, these rugæ unfold, presenting a smooth mucous surface; and their arrangement, as above stated, undoubtedly prevents laceration of the mucous membrane, both during pregnancy and when the fetal head is distending and passing through the cervix.

The papillæ on the internal surface of the os uteri are three or four times larger than those on the external, though resembling each other in all other respects. The mucous membrane covering these papillæ and situated between them, consists of cylindrical, dentated epithelium, which at a short distance above the os uteri becomes ciliated, and so continues to the cavity of the fundus uteri. Thus, then, the epithelium of the os uteri and external part of the cervix is constantly scaly; that within the os uteri, just at its margin, is cylindrical or dentated, but not ciliated; but in the rugous portion of the cavity of the neck the cylindrical epithelium becomes dentated. Numerous caudate corpuscles are often observed, each having a distinct central nucleus, and which are, probably, altered epithelial particles.

The ovules, or glands of Naboth, so frequently described by writers as obstructed follicles, are frequently found on parts where no mucous follicles exist, and are, probably, a vesicular or eruptive disease, originating in the deeper structures of the mucous membrane. They are covered by a thin, fibrous membrane, and contain a pearly-white, coagulated substance, in which are found minute oil globules, mucous corpuscles, numerous granular corpuscles, and, sometimes, crystals of cholesterine. They are seldom present, unless the cervix uteri is diseased, and are apt to be attended by profuse discharges from the cervix. Under the finger they feel like shot. (For the preceding description of the vagina and cervix uteri, I am principally indebted to Dr. W. Tyler Smith, who has devoted much time and attention to their investigation. His very excellent work, entitled "The Pathology and Treatment of Leucorrhea," should find a place in every medical library.)

The *ligaments* of the uterus are two anterior, two posterior and two lateral, and the round ligaments. The first six are merely folds or duplicatures of the peritoneum, in which are contained the nerves and blood-vessels leading to and from the womb, together with many smooth muscular fibers passing from this organ. The lateral ligaments, also termed the "*broad ligaments*," are of a quadrilateral shape, and enclose the Fallopian tubes, and the ovaries.

The *round ligaments* are cylindrical cords of an ashy-white

color, and six or seven inches long; they arise from the lateral margins of the womb, a little below and in advance of the Fallopian tubes, and pass toward and through the abdominal rings, becoming lost in the areolar tissue of the groins, mons veneris, and labia pudendi. "They consist of numerous striped muscular fibers, which pass backward and outward, soon become fleshy, unite to form a cord on each side which runs between the peritoneal layers forming the broad ligaments, and is inserted into the upper and anterior part of the uterus. These fibers draw the uterus forward, and thus elongate the vagina." (*Todd and Bowman.*) Many veins pass through these cords. The round ligaments are liable to disease, as inflammation, hypertrophy, &c.

The *Fallopian tubes*, or *oviducts*, are two cylindrical canals, four or five inches long, which proceed from the upper angles of the uterus, and pass in the superior and lateral fold of the broad ligaments, in a wavy, flexuous manner, to the ovaries. The canals of these tubes are very narrow, being, however, more contracted at their uterine and fimbriated extremities, than in the interval between. The uterine extremities of these canals open obliquely into the uterus; the free extremity called the "pavilion," or "fimbriated extremity," is expanded and fringed, one of the fringes of each tube being longer than the others, and inserted into the corresponding ovary. The fimbriæ are applied to the ovary at the period of fecundation, for the purpose of grasping the impregnated ovule or egg, that it may be transmitted along the canal of the tube to the uterus.

The external covering of these tubes is peritoneum, beneath which is a thick, smooth muscular substance, whose fibers are disposed in longitudinal layers externally, and transverse or circular internally; the contraction of the tubes being vermicular. The internal membrane is mucous; it is very thin, pale rose color, soft, without glands or papillæ, and is disposed in longitudinal folds; a single layer of ciliated, filiform epithelium lines its internal surface, the cells of which vary from 0.007 to 0.01 of a line, and whose cilia, by their vibration, produce a current running from the fimbriated extremity toward the uterus. This motion would favor the passage of the ovum

along the canal to the uterus, but would retard the advance of the semen or spermatozoa.

The *ovaries* are two organs of an oblong, oval form, in which the ova, or eggs, are matured for impregnation. They are situated in a fold of the broad ligament, below and posterior to the Fallopian tubes, have a whitish appearance, are about an inch long, compressed from before backward, resemble an almond in shape, and are connected by a round, dense, narrow cord, or ligament, to the uterus. Externally they receive a covering from the peritoneum, termed the "indusium;" immediately beneath this is the proper covering, "tunica albuginea," a firm, white, condensed, fibrous tissue, about 0.25 of a line thick. The substance of the ovaries, termed "stroma," is a dense, grayish-red, spongy, highly vascular tissue, somewhat resembling erectile tissue, in which are located the *ovisacs*, or *Graafian vesicles*. These vesicles vary in size from 0.25 of a line to three lines in diameter, the largest being seated near the circumference of the stroma. Among children and old women they are scarcely discernible. There are usually ten or twenty of these vesicles in the adult ovary, but under the microscope many more will be seen; they contain a serous fluid, with many cells, among which the ovum is found. The ovaries of adults are rough and furrowed, owing to the escape of the ova.

The uterus as well as the ovaries may be absent, but such instances are rare.

MODES OF DIAGNOSIS FOR DISEASE OF THE INTERNAL ORGANS.

A correct diagnosis of the maladies to which the internal reproductive organs of the female are liable, is of paramount importance, not only because it will lead to a correct therapeutical management, but likewise because it will dispose the skilful practitioner to abstain from using unnecessary and active medication in cases where there is no possible chance of cure. And in order to arrive at a correct diagnosis, the first and most essential requisite is a thorough anatomical and physiological knowledge of these parts. True, there are several diseases the symptoms of which are obscure or perplex-

ing, and which are not rendered clearer by more rigid examination, but this should rather be an incentive to perfect ourselves in the knowledge just referred to. An early discrimination of disease of the generative organs is frequently of immense value to the practitioner, and of great importance to the patient; because, several maladies which may be readily determined and successfully treated at an early stage, become, when permitted to continue without receiving proper attention, not only difficult to diagnose, but, in several instances, absolutely incurable. And, unfortunately for both patient and practitioner, the natural delicacy of females and their extreme reluctance to describe their symptoms, or to submit to the proper examination and treatment when laboring under genital disease, frequently leads them to delay applying for professional advice at an early period, postponing the matter until their sufferings are intolerable, and their disease beyond medical aid.

The modes of diagnosis are six: 1, The history of the symptoms; 2, manual examination; 3, examination with the speculum; 4, examination with uterine sound; 5, auscultation; and 6, the character of the discharges.

1. *The history of the symptoms*, although not always sufficient to enable us to determine the character of disease with certainty, yet, when taken in connection with the other methods, will tend very much to enlighten us. Many symptoms in various parts of the system may be owing to uterine disease, as pains in the head, a hot or cold sensation on the top of the head, cough, palpitation of the heart, indigestion, hepatic torpor, constipation, pains in the abdomen, &c.; and the same symptoms may exist where the reproductive organs are in a normal condition.

Pains in the lower part of the abdomen, or in the lower limbs, a sense of weight or fulness, with a dragging down sensation extending into the loins, weakness of or pain in the back, difficult or scalding urination, constipation, &c., are usually present in displacements of the uterus. Frequently, coition is painful, especially when irritation, inflammation, or ulceration exists. Pain in the rectum, and in the loins, although symptoms of other diseases, should always be noted

during the examination, as they are often connected with uterine disease. The gait of the patient should be observed; this is always peculiar when the pelvic viscera are abnormally affected. The temperament of the patient, her habits, the degree of animal power, previous diseases, exposures, character of the first menstrual discharge, as well as subsequently, kind of pain, period when attention was first called to the present disease, &c., should all be properly noted. If the patient be married, ascertain the animal power of her husband, whether he has ever had syphilis, whether there are physical or other incompatibilities between the two, as well as the number of pregnancies, births, miscarriages, and the attending circumstances. The character of the general health of the patient must be particularly inquired into, as well as the constitutional effects produced by the disease.

2. *Manual examination* may be divided into "vaginal examination," or "toucher;" "rectal examination;" and "abdominal palpation."

In making the *vaginal examination*, or "toucher," it is necessary that both the bladder and rectum should be previously evacuated. Under ordinary circumstances the patient may lie in bed, having the head a little more elevated than the hips; sometimes, however, it may be necessary to have the hips brought slightly over the edge of the bed, the limbs being supported by placing the feet upon two chairs; and at others, it will be required that the patient stand during the examination. Some practitioners prefer placing the female on her left side, with the limbs flexed upon the abdomen, and introducing the finger from between the thighs posteriorly; I adopt this mode, when the os uteri is high up, and it, as well as the upper part of the vagina, is to be examined. In whatever posture the female is placed, there must be no exposure of the person.

The practitioner having properly placed the female, and anointed the index finger, seats himself by the side of the bed, and passing the hand under the dress quickly, but not roughly, up toward the vulva, he carefully introduces the finger into the vagina. The finger of either hand may be employed, according to circumstances; and, sometimes, it may be found necessary to introduce two fingers, in order to ascertain more accurately

the condition of the uterus when displaced, enlarged, or occupied with tumors. If the neck of the womb cannot be readily reached while the female is lying on her back, the hips may be raised, and the limbs be more flexed upon the abdomen. When the female is examined standing, she should rest her back against a wall, having the feet sufficiently apart; the physician resting before her on one knee, and with one hand over the hypogastric region to press the womb downward. In this last position the height, inclination, weight, and volume of the uterus can be more accurately ascertained. The nails of the fingers employed in the examination, should be pared closely, so as not to injure the cervix uteri nor vaginal walls. The vagina is first to be examined, then the cervix, then the body of the uterus, and lastly the parts surrounding; the examination should be conducted with due carefulness and speed, endeavoring not to weary the patient.

The vaginal examination ought not to be made during menstruation, nor for a few days before and after its appearance, because the changes which occur in the uterus at this time, may be mistaken for diseased conditions. A very irritable inflamed, or painful condition of the vagina, should first be removed, before attempting the examination. Vaginal examinations should always be made as early as possible, and should be repeated only when they become positively necessary.

The points to be learned by the "toucher," are the size of the vaginal orifice, whether contracted by muscles, or surrounded by swollen mucous membrane; the direction of the vagina in relation to the pelvis; its length and breadth; whether narrowed at any part, the exact seat of it, and its apparent cause; whether there is a complete closure of the canal, and its seat; mode of termination of the vagina; whether its mucous membrane is smooth, velvety, rough, corrugated, swollen, or thickened; presenting puckering, fræna, or vegetations, &c., and their seat; arterial pulsation, present or absent,—general, or limited to what part; tension, hardness, or resistance to pressure at any part of the wall; any ruptures or other openings, their seat, and communication with bladder, rectum, or tumors; size, form, and position of tumors;—sessile

or pedunculated,—sensible or insensible; foreign substances in vagina; heat and moisture of the vaginal canal, as well as its sensibility, &c.; any thickening of the urethra, its extent, hardness, &c.; any distension of the bladder; any protrusion of the anterior wall of the vagina, &c; the position, elevation, or depression of the neck of the uterus; its direction forward, backward, or to either side; neck short, long, or lost; broad or narrow; soft, hard, or cushiony; irregularities, elevations or transverse mucous folds on its surface; ulcerated or abraded; pulsation of arteries on its surface; extent of destruction; any tumors, their character, size, direction, and place of attachment; heat or tenderness on pressure of the lips; lips natural, circular, hard, soft, irregular, enlarged, everted, smooth, thin, thick, lobulated or fissured, &c.,—and whether confined to one or both lips; the os uteri, its direction, shape, smooth or irregular, degree of openness; any tumor, its size, shape, and, if possible, point of attachment; position and apparent size and weight of the body of the uterus,—hard, soft, or fluctuating,—movable or immovable,—any enlargement, anteriorly or posteriorly,—any angle or bending between the neck and body; the result of ballottement; any tumors to be felt, &c. Pressure should be made upon the cervix at various points; also upon the body of the womb, to ascertain its effects, as pain, where, its character, &c. It may be proper to observe here, that the cervix will be found to vary in size among different women, without being diseased. Thus, in some it will be short, in others elongated; its opening, or os tincæ, may be round or transversely oval; excessive coition will render the cervix soft and large, a condition which is likewise most commonly met with at the menstrual period; among the aged, the cervix becomes smaller and much harder.

While the finger is within the vagina, it should be pressed all around in order to discover any tumor behind its walls, its situation, size, shape, character of its surface, smooth or irregular, hard, soft, elastic, impressible or fluctuating, its mobility, tenderness, &c. Pressure between the finger in the vagina and the hand on the abdomen will detect tumors, &c.; and between the vagina, and rectum the thickness of the intervening substance may be ascertained, as well as tumors, or other

difficulties. If the parts cannot be thoroughly examined by the finger of one hand, that of the other should also be employed upon the removal of the first; and the finger should be examined after its withdrawal, to observe the character of the substance which may adhere to it, and whether it be bloody or not.

In cases of malignant and some painful diseases, the "toucher," is inadmissible, because, without being able to derive any benefit whatever therefrom, it augments the patient's sufferings, and is apt to increase any hemorrhage that may be present, or induce severe inflammation. Under such circumstances, not only may the parts be visually examined, but any local treatment may be safely employed to the unhealthy tissues, by making the examination after the manner of Dr. J. Marion Sims, as related in the American Journal of Medical Science, January No., 1852, p. 64. The female is to be placed upon a bed or table of the proper height, resting on her knees and shoulders, the hips being raised as high as possible; any stays or other articles of clothing which press upon the walls of the abdomen, must be loosened or removed. The knees must be kept apart, about half a foot from each other, and the thighs must be perpendicular to the table. An assistant is at each side, who, placing a hand in the furrow between the thigh and glutei muscles, extending the fingers so as to reach the labia majora, makes simultaneous traction upward and outward, carrying the nates and parts under the hand along. The vaginal entrance opens, the viscera of the pelvis and abdomen press towards the epigastrium, and the external atmosphere, exerting a force of 14 pounds to the square inch, distends the vagina throughout, so that every portion may be inspected.

The *examination per rectum* is made to ascertain more satisfactorily the condition of the uterus, Fallopian tubes, and ovaries, especially when the vaginal examination has given rise to doubts concerning them; by it we are also enabled to detect the presence of tumors situated posteriorly to the uterus, or other diseased conditions. The female having previously evacuated the rectum by an injection, or otherwise, is placed upon her back or side, with the limbs well flexed toward the abdomen; the index finger of the operator, being oiled, is to be gently

and carefully introduced within the rectum, examining the various parts as it advances upward. The back part of the uterus, the ligaments, and ovaries, may be more readily felt, by placing a hand upon the abdomen just above the pubic bone, and making pressure downward and backward. In this examination, the points to be ascertained are, the size, form, position, &c., of such parts of the uterus as can be felt; its mobility; the condition of its fundus; its relation in position to pelvic tumors, &c. If the ovaries and Fallopian tubes can be recognized, their position, mobility, size, form, condition of surface, consistence, tenderness, pulsation of arteries, &c., should be ascertained. If a tumor is present, determine its position relatively to the rectum and pelvis; its size; its form; the character of its surface, whether smooth, irregular, nodulated, &c.,—its consistence, whether hard, soft, elastic, impressible, fluctuating, &c., giving the idea of limbs or other parts of a fetus,—its connection with the uterus, bladder, rectum, or other parts; its mobility; its tenderness, &c. By passing a finger into the vagina at the same time, the thickness of substance between the fingers can be ascertained, as well as the presence of tumors and their characters. As the uterus, when felt through the rectal and vaginal walls, appears considerably larger than it is, care must be taken not to mistake this apparent enlargement for a diseased condition; and the cervix must not be confounded with the posterior wall of the uterus; nor be mistaken for a tumor.

There may be certain diseased conditions of the anus or rectum, which will render rectal examination difficult or painful; these may generally be so far palliated as to permit the examination to take place with less difficulty and pain, by introducing within the rectum one or two hours beforehand, a suppository composed of tallow one or two scruples, Sulphate of Morphia one-fourth of a grain, extract of Belladonna one-fourth of a grain.

Palpation of the abdomen is another mode of manual examination. The female, having emptied the bladder, is placed upon her back with the hips elevated, and the limbs flexed toward the abdomen, while the head is also flexed on the chest; in this position the muscles of the abdomen are com-

pletely relaxed. Under ordinary circumstances the body should be covered by some thin garment, as any exposure of the person is unnecessary. With the ends of the fingers, the physician presses upon the lower portion of the abdomen, over the region of the bladder and adjacent parts. The pressure must be carried sufficiently deep to feel any resisting tumor, if such be present, but no severe pain should be occasioned ; and the manipulation should be carefully carried laterally and upward, not, however, prolonging the examination unnecessarily. If a tumor be felt, its form, size, and character should be made out as much as possible by the palpation. If there be some difficulty in conducting the examination, from an accumulation of fat, this may, in many instances, by gentle and gradual kneading, be pushed away sufficiently to allow the operator to feel the uterus through the abdominal walls, when this organ has ascended above the superior strait.

By abdominal palpation, we frequently ascertain the presence of an ovarian or uterine tumor, its size, shape, consistence, &c.; the presence of inflammation; and, by the degree of mobility, we may surmise whether any adhesions exist or not. The advance of the gravid uterus may also be ascertained by this method of exploration. *

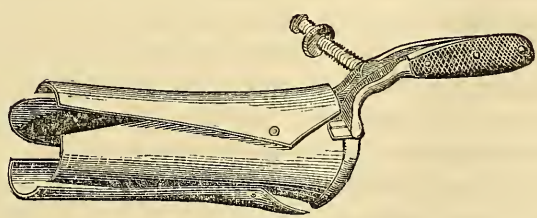
3. *Examination with the speculum* enables the practitioner to

* "Care should be taken that your hands are not cold; if they are, this will not only annoy your patient, but, by exciting contraction of her abdominal muscles, may seriously impede your investigation. Placing both hands upon the abdomen, you make at first very gentle pressure, increasing it by degrees as the patient becomes accustomed to it, and trying to engage her in conversation, and thus to distract her attention, if either pain or alarm should cause her to throw her abdominal muscles into action. You thus make yourselves acquainted with the general contour of the abdomen, and by examining at either side, as well as in the center, you detect any tumor which may be present there. Supposing any such growth to be discovered, you must examine well its form, its size, its attachments, its degree of mobility, and the amount of tenderness or pain which meddling with it occasions. Is it due to accumulation of feces in the large intestine; to enlargement of the liver or spleen; or is it perhaps merely the result of a general fulness of the abdomen produced by flatus in the bowels, or by fat in the omentum, or beneath the integuments, rather than the consequence of any definite disease? If the tumor seem to arise from out of the pelvis, it is most probably formed by the uterus itself, or its appendages. If by the former, the chances are that it will be situated in the mesial line of the abdomen; if by the latter, that it will occupy one or the other side, or at any rate that it will be learned to have occupied that situation when first discovered. Whether it is solid or fluctuating, even or irregular, will be other points for you now to make out, and you must then proceed to correct or confirm, by a vaginal examination, the impressions received on examining through the abdominal walls." *West's Lectures on Diseases of Women.*

examine the vaginal walls and the cervix uteri by ocular inspection. There is no doubt but this mode of examination has been unnecessarily employed in many instances, and often with too much frequency, but, nevertheless, when used under the proper circumstances, it is a very valuable aid in diagnosticating. It is generally very difficult and painful to introduce, among the aged and very young, and should never be used among the unmarried, unless the nature of the case positively demands its employment. Vaginal tumors, extensive ulceration of the vagina or uterus, cancer of the neck, polypus, corroding ulcer, bleeding fungi, and all diseases connected with hemorrhage or excessive tenderness, are contra-indications to the use of the speculum.

For examinations of the vaginal walls and of the os uteri, I prefer Ricord's four bladed speculum, having the orifice, at the external extremity, or near the handles, made *widely trumpet-mouthed.* (See fig. 11.) For the application of remedial agents to the parts, I commonly use the glass speculum, which is silvered on its external surface, and then coated with a solution of India-rubber and varnish; it is not acted upon by caustics, and does not become tarnished so soon as the metallic instruments. There are several other kinds of specula known to the profession, but the ones above referred to are more commonly used in this country.

Fig. 11.



Ricord's four-valved Speculum.

In order to reach the os tincæ in all cases, the body of a speculum should not be less than seven inches in length, but care should be taken not to push the os uteri from its position.

whether this be normal or not. When there is great relaxation of the vaginal walls, they fall between the blades of the speculum and prevent a correct observation of the os uteri; in such cases, the glass speculum may be advantageously employed.

Before introducing the speculum, both the rectum and bladder should be evacuated. The patient should be placed upon her back, with the hips over the edge of the bed, and elevated upon a pillow, the legs separated and flexed toward the abdomen, and each foot resting upon a chair. If daylight is to be used, the bed should be so arranged, that the light from the sky may pass directly through the speculum upon the internal parts, so as to give a clear and distinct view of the several diseased surfaces; the rays of light direct from the sun must be avoided.

There should be no unnecessary exposure of the female; and it would be better for her to wear drawers with an opening in front just over the genitals; or, the under garment may have a slit made in it, through which to pass the instrument. When the cervix is to be examined, it will be better to first ascertain its location by the vaginal touch. The practitioner standing between the limbs of the patient, with the fingers of one hand separates the labia, while with the other hand he gently and cautiously, with a slight rotary motion, introduces the point of the instrument, (which has been warmed and well oiled,) into the vaginal orifice, at which point the greatest resistance to its passage is met with, carrying it upward and backward in the direction of the axis of the pelvic cavity. Should any great pain be experienced by the patient during the introduction of the instrument, or should it pass with difficulty, it must be withdrawn and re-introduced; these conditions are apt to ensue when the fourchette is pushed before the speculum. When it has passed to the distance of about four inches, he removes the obturator, if one is used, and by means of natural or artificial light, the parts at the internal extremity of the speculum may be thoroughly examined. As the removal of the obturator is sometimes accompanied with a noise, (especially that of Ricord's instrument,) which may alarm the female, and occasion her to move suddenly, it will be prudent to exhibit the

instrument and explain its mode of use, and the cause of the noise, previous to introducing it. As soon as the speculum is introduced, and before attempting ocular inspection of the internal parts, a cloth of some kind should be placed around the external portion of the speculum, so as to completely conceal from view all the external parts of the patient.

If the cervix is not brought into view, it will be necessary to withdraw the instrument a little, and pass it again upward and in a different direction, continuing this change of direction until the os uteri is embraced within the vaginal extremity of the speculum; and in thus incompletely withdrawing the instrument always be careful to gently close it somewhat, for if its blades be kept apart, the movement will be apt to occasion unnecessary pain. The mucous membrane of the vagina, seen at the vaginal extremity of the instrument, forms a fold or cushion, with a small orifice at the center, which, without care, may be confounded with the os uteri; by withdrawing the instrument slightly, the vaginal wall may be discriminated from the os uteri, by the change which the fold undergoes.

Some practitioners prefer introducing the speculum with the patient lying upon her left side, the hips brought to the edge of the bed, and the limbs flexed upon the abdomen. This may, probably, be a good position in many instances, but it does not admit the light so thoroughly; and as to indelicacy, I can perceive no material difference between the positions. Occasionally, the patient is placed upon her hands and knees, and the speculum introduced while in this position.

The healthy os uteri is very smooth, polished, glandular, without wrinkles, and of a paler color than the vagina. When it is brought into view, any mucus or blood which may be upon its surface should be removed by a piece of moistened sponge, held by a long pair of forceps, or attached to the end of a small rod of whalebone; and this cleaning of the parts must be especially attended to, previous to the application of local remedies. Sometimes, when the whole of the cervix cannot be inspected at once, it will be necessary to change the position of the instrument two or more times. And in order to examine the vaginal walls, it will be required to gently turn the instrument so as to bring all parts successively into view,

gradually pushing it onward as the inferior portions have been inspected.

The points to observe with the speculum are, its facility of introduction, or, pain; the color of the vagina; its surface, whether smooth, velvety, rough, corrugated, or excoriated; ulcers, their number, situation, form, superficial extent and depth,—whether the edges are level with surrounding tissue, beveled, raised, everted, inverted, ragged or smooth,—their thickness, consistence, and color,—character of the surface of the ulcer, &c.; cicatrices, their situation, form, length, &c.; tumors; vegetations; abscesses, their form and situation; and the appearance of the discharges. The form of the cervix uteri, its size, exact situation, elevation or depression from level of surface generally; excoriations; ulcerations, their form, size, and general characters; as well as the condition of the surface of the cervix, whether smooth or studded with small protuberances, &c., must be ascertained; also, the character of the lips of the os uteri, their size, whether flat, uneven, everted, lobulated, and the size and character of the lobulations; the color, bright, livid, dusky red, &c., and whether there is a raw appearance around the orifice, extending or not into the cervical canal. Again, the character of the orifice of the uterus must be observed; its size, form, closed, or open; any discharge from the orifice or covering the lips; its characters; any distension of the orifice from tumors, glairy, or gelatinous mucus, &c.; any extension of excoriation or ulceration into the cervical canal. Occasionally, it may be necessary to introduce a smaller speculum within the larger one, for the purpose of separating the lips and examining the condition of the cavity of the os uteri. An instrument made expressly for this purpose is manufactured by Mr. Tiemann, of New-York city.

Having concluded the examination, slowly and gently withdraw the instrument, closing its blades as they are being removed; and observe that no hair nor any of the soft parts are fastened among its joints. Wash it well with soap and warm water, then dry it thoroughly with a towel, and it is ready for another examination; by an attention to the cleansing of the speculum, there will be no danger of spreading any contagious affections of the parts.

4. The use of the *uterine sound* as an aid in diagnosis was first proposed by Professor Simpson, of Edinburgh. The instrument known as "Simpson's uterine sound," is the one commonly employed. It is made of flexible, German metal, and very much resembles in shape, size, and curve, a sound for the male bladder. The uterine extremity of the sound is bulbous, and a notch is placed at every inch, by which it can be readily determined how far the instrument has passed within the uterine cavity. Its handle is flat, one side of which is usually roughened.

At the distance of two and a half inches from the uterine end is a slight prominence, showing the average length of the uterine cavity when the organ is in a normal condition. At the distance of four and a half inches is a deep depression, showing a length which the uterine cavity rarely exceeds.

To use it, one or two fingers of the left hand are introduced within the vagina, the female lying on her back, or on her left side, as heretofore explained; the finger is carried up to the cervix and posteriorly to the uterine orifice; the sound is then passed along the finger, as a guide, and when its bulbous end reaches the os uteri, by pressing the handle backward upon the perineum, at the same time gently carrying the instrument upward, it will pass through the os uteri into the uterine cavity. No force whatever must be used in its introduction, as serious results will happen therefrom; and should there be a suspicion of pregnancy, it must not be used, lest it cause an abortion. It may be well to remark that, generally, more or less pain accompanies its passage through the os uteri and internal cavity, and which may continue for a short time after its withdrawal.

In the introduction of the uterine sound we observe, the facility with which this is effected, the degree of pain accompanying, and whether a discharge of blood is occasioned. When once within the uterine cavity, we determine its length, its direction; whether any angular flexion is presented, and the direction of the long diameter of the cavity in relation to pelvic or abdominal tumors. Can the extremity of the sound be felt any where through the walls of the abdomen, vagina, or rectum, and what is the thickness of the intervening substance?

Is the uterus capable of being moved, independently of any pelvic or abdominal tumor which may be present? Can an abdominal tumor be moved, while the uterus is fixed by the sound? Or, does a movement of the tumor occasion a corresponding movement of the handle of the sound? If there have been frequent hemorrhages, and the uterine cavity is considerably augmented in size, we at once suspect the presence of a tumor.*

5. *Auscultation* by the naked ear, or by aid of the stethoscope, placed upon different parts of the abdomen, is principally used for the purpose of detecting the condition of pregnancy; a certain sign of which is the beating of the fetal heart, giving a noise resembling that of the ticking of a watch, and from 100 to 150 beats in a minute. For other signs of pregnancy, see "King's Obstetrics," Chaps. xiv, and xv.

6. The *discharges* from the internal female generative organs vary much in their character, being mucous, watery, purulent, or bloody, one or several of which may be present at the same time, being the result of one or more abnormal conditions of the organs. The quantity of the discharge should be noted; whether constant or intermittent, gradual, or in a gush, and the periods of its occurrence. Is the discharge transparent, opaque, white, yellow, pink, greenish, streaked with blood, watery, thin, glairy or viscid, stringy, puriform, curdy, like white of egg or jelly, mixed with urine or feces, odorless or offensive, acrid, containing organic detritus, tuberculous, cancerous, or calcareous matter; staining the linen, the color of the stain; the microscopical characters of the discharges, spermatozoa, urinary or other crystals; any granules, their number, size and color, aggregation, &c.; any cells, their definition, size, form, elasticity, consistence, color; cell wall, transparent, granular, hyaline, or plicated; cell contents, number, size, color, and molecular movements; nuclei, one or more, shape, size, definition—if several, their situation with reference to each other and to the cell wall; any nucleoli,

*"If the uterus be bent upon itself either forward or backward, the diagnosis of this condition, which once was a matter of much difficulty, is now often arrived at with facility; by introducing the sound with its concavity directed toward the swelling we have detected per vaginam, and observing whether or no this swelling disappears on turning round the instrument." *West's Lectures on Diseases of Women.*

number, size, form, color, and character of outline; any fibers, their definition, size; arrangement, parallel or interlacing; form, straight, wavy, or curled; color; presence of nuclei, their number, size, form, and definition; the effects of reagents upon all the above, as, water, Acetic Acid, Hydrochloric Acid, Ether, Liquor Potassa, Solution of Iodine; are the substances acted upon unaffected; dissolved, with or without effervescence; rendered more distinct, or indistinct; more transparent or less so; caused to swell up, enlarged, contracted, &c. Mucous discharges are generally white, though they may frequently be met with varying in color, being greenish, yellow, &c., and very difficult to detect from pus.*

In connection with these several modes of examination, the general health of the patient must be studied, her appetite, digestion, condition of the bowels, kidneys and skin, degree of debility, strength and velocity of pulse, emaciation, local pains, and all the general and local symptoms which she experiences.

DISEASES OF THE VAGINA.

GONORRHEA IN THE FEMALE.

Gonorrhea in the female is an inflammation, principally of the vulva and vagina, the urethra and uterus not being affected at all, or in a slight degree only. In males, gonorrhea is confined to the urethra. The disease is commonly occasioned by impure sexual intercourse, though I have no doubt that other causes may produce an inflammatory condition of the parts, accompanied with an infectious discharge, which if not true gonorrhea is so closely allied to it as to defy discrimination.

Symptoms. As with the male, gonorrhea in the female shows itself generally in from two to six days after improper cohabitation; in some cases it is not developed until after two or three weeks. Frequently, there is so little uneasiness experienced, that the female looks upon the discharge from the

*For the points to ascertain during the several methods of examination, named in the preceding pages, I am indebted to a little work, published under the authority of the London Medical Society of Observation, entitled "What to observe at the bedside, &c., in medical cases."

vagina as being of a leucorrheal character. There is generally a tickling or itching experienced about the vaginal orifice, which, in severe attacks, may extend to the vulva, clitoris and other external organs. In acute cases, the inflamed parts swell and become tender, and there will be more or less burning and pain in urinating, from an irritable condition of the urethra at the meatus urinarius; but the urethra itself, is rarely if ever attacked with the gonorrheal inflammation. Walking sometimes occasions pain, and there is more or less uneasiness when sitting. As a general rule, however, females laboring under this disease suffer less from pain and uneasiness than males similarly affected.

The fluid discharged in gonorrhea is of a muco-purulent character, at first whitish, but becoming in a few days more copious, thinner, less viscid, and of a yellowish or greenish color; in very severe cases, the discharge may be stained with spots of blood. Under the microscope, according to W. Tyler Smith, it is found to consist of epithelial scales or masses, mixed with fat-globules, pus-corpuscles, mucus-corpuscles and plasma, according to the character of the parts affected; it has an acid reaction, and is very difficult to distinguish from the discharge in vaginal leucorrhea.

In severe attacks of gonorrhea, not only are the vagina and external parts affected, as the labia, nymphæ, clitoris, meatus urinarius, &c., but the inflammation extending internally, involves the mucous membrane covering the neck and mouth of the uterus, and sometimes even the fundus uteri, Fallopian tubes, and ovaries. There is heat and lancinating pain in the vagina, scalding and pain on passing water, dragging pain in the lower part of the back, and more or less pain on evacuating the bowels. Frequently there will be an aching pain throughout the whole pelvic region, and sometimes an irritation or excoriation of the upper and internal surface of the thighs.

When the disease extends to the cervix, this becomes of a deeper red color, and sometimes abrasions or excoriations may be seen upon it, by the aid of the speculum; this instrument should always be used to ascertain that the disease is not complicated with chancre, but its introduction should be delayed

until after the acute symptoms have subsided, and the discharge be found to persist notwithstanding treatment.

Females frequently suffer from a leucorrheal discharge of a purulent and infectious character, communicating to the male urethra a disease closely resembling gonorrhea; and the practitioner should be extremely cautious not to too rashly or prematurely diagnose these discharges as gonorrheal, for not only will the reputation of the female be thereby destroyed forever, but the happiness existing between husband and wife, child and parent, be changed to misery and wretchedness. The position of the party, her general habits, &c., should all be taken into consideration. If the disease be of leucorrheal origin the discharge from the male urethra will probably not be accompanied by much heat and scalding on urinating, and will readily yield to treatment. If, however, the female complains of pain during copulation, and has an enlargement of the glands in the groin, with tumefaction of the external genital organs, profuse discharge, constant pelvic aching pain, heat and pain on urinating, and inflammation and tenderness around the meatus urinarius, these are strong grounds for suspecting gonorrhea. But even with all these symptoms, the woman may be chaste, and the diagnosis should not be pronounced with positiveness unless there are well ascertained reasons for doing so. I can see no reason why an acrid discharge from vaginal inflammation, or an acrid leucorrhea, when it does develop inflammation of the urethra in the male, may not be of an infectious nature. Dr. Parker states that "whenever the peculiar erosions or superficial ulcers of the mucous membrane covering the cervix uteri, described by Ricord, are discovered, and which occur in nineteen out of twenty acute cases, we can have no hesitation in pronouncing the disease to be gonorrhea." Yet excoriations and ulcers will frequently be observed in leucorrhea, where the character of the female is above suspicion.

Treatment. In the treatment of gonorrhea in the female, but little internal medicine will be required. Copaiba, Cubebs, and other agents which have been found so useful among males, are of no benefit when the opposite sex is diseased. The principal internal treatment is the employment of laxa-

tives, to keep the bowels regular, daily; and the free use of infusion of Marsh-mallow root, for the purpose of lessening any urethral irritation which may be present during the acute stage. Where the irritation of the urethra is excessive, being attended with much heat and scalding of urine, a drachm of Nitrate of Potassa, or of Alum, may be dissolved in Marsh-mallow infusion half a pint, and a tablespoonful be administered every two or three hours. If the local inflammatory symptoms run very high, the warm hip baths should be used in addition, or the parts be exposed to the vapor arising from an infusion of such articles as Lobelia, Stramonium leaves, Poppy capsules, Hops, &c., repeating these three or four times a day. A piece of lint, moistened with an infusion of one or more of the above named anodynes, may likewise be introduced into the vagina, extending through its whole length, and which may be renewed several times, daily; or the infusion may be injected into the vagina several times a day. But these last named means will only be required in acute cases, where the symptoms are very severe and painful.

The principal reliance in the cure of gonorrheal vaginitis must be placed on local applications, which are not only to be injected into the vagina, but should, in severe attacks, be kept constantly in contact with the vaginal walls and external parts, by means of lint moistened with the solution used, and introduced within the vagina, or kept in contact with the labia, clitoris, meatus, &c. One of the following solutions may be used, the kind preferred depending on the stage of the disease, its peculiarity, and the influence produced upon it by the application:—

1. Take of Chloride of Zinc from three to six grains; Distilled Water, one fluid ounce; mix. About a teaspoonful of this may be used for an injection. Sulphate of Zinc, Iodide of Zinc, or Alum, may be beneficially substituted in many cases for the Chloride of Zinc; and, if required, the strength of the solution employed may be gradually increased. Decoction of Golden Seal may frequently be substituted for the Distilled Water with advantage.

2. Take of powdered Borax two drachms, Sulphate of Mor

phia three grains, Decoction of Golden Seal four fluidounces; dissolve the powders in the decoction, and use as the preceding.

3. Take of Decoction of Golden Seal, cold Infusion of Wild Cherry bark, each, one fluid ounce and a half, Tannic Acid thirty grains, Sulphate of Morphia, dissolved in the least possible quantity of Alcohol, five grains; mix, and use as above named.

4. Take Sulphate of Copper three grains, Distilled Water two fluid ounces; mix, and use as above.

5. Take Tincture of Chloride of Iron, and dilute it with a sufficient quantity of water to prevent it from smarting too severely.

6. Take of Nitrate of Silver ten grains, Distilled Water one fluid ounce; mix. This may be used after the active stage has passed away, the patient continuing, however, to suffer from severe pain and an abundant discharge, while the affected mucous surfaces remain red and turgid with blood.

Other solutions have been recommended, but I have found the above the best. In five cases I have successfully used a solution of Chlorate of Potassa, as a local application,—a drachm and a half, or two drachms, of the salt to half a pint of soft water; repeating the injection three or four times a day. The female should remain quiet in the recumbent position during the acute stage, especially when this is severe, as motion or exercise irritates the parts and renders the disease more intractable to medicine. A female glass syringe should always be used for vaginal injections. The diet should be light, but nutritious and easy of digestion, avoiding high seasoned food, all kinds of acid food or drink, fat or greasy substances, salt, salted meats, saccharine articles of diet, and all intoxicating liquors.

Should the discharge continue to be profuse after the subsidence of the acute symptoms, it will be proper to examine the mucous surfaces of the vagina, and cervix uteri, with a speculum. "These may be found red, turgid, and hypertrophied, or covered with red isolated patches, aphthæ, vesicles, pustules, or superficial ulcerations. After the continuance of the disease for some time, the os uteri is always more or less affected; its lips are red, turgid, and everted, and generally

covered with small ulcerations, granulations, or other changes, the result of chronic inflammation." (*Parker.*) When there is no change of structure in the chronic form, the employment of the 3rd or 5th solution, named above, will be found sufficient. When the discharge is offensive, one part of Solution of Chloride of Soda may be added to twelve or sixteen parts of water, and injected into the vagina; in all cases, when the os uteri or surrounding tissues are affected, a piece of lint or sponge moistened with the solution used, should be kept in constant contact with the diseased surfaces.

When ulcerations or granulations are present, they may be removed by touching them through the speculum, with the Tincture of Chloride of Iron, with the solid Nitrate of Silver, or with a solution of six or ten grains of Nitrate of Silver to the fluid ounce of water. If the disease has extended within the uterus, the last named solution, or the Tincture of Chloride of Iron, sufficiently diluted with water, may be injected into the uterine cavity. I have frequently removed these granulations, superficial ulcerations, and the discharge, by the application of a teaspoonful of the following mixture, repeating it three times a day: Take of Strychnia two or three grains, Distilled Water two fluid ounces, strong Nitric Acid eight drops; mix.

Any enlargement of the glands in the groin, will require a state of rest, and the constant application of a mixture composed of Tincture of Conium Maculatum, Water, each, one fluid ounce, Muriate of Ammonia two drachms; mix, and make a lotion.

When the inflammatory symptoms become so severe as to affect the system, sedatives or anodynes may be given, as the Compound Powder of Ipecacuanha and Opium, Tincture of Gelseminum, Tincture of Aconite, &c., treating the symptoms according to their indications, on general principles.

ACUTE INFLAMMATION OF THE VAGINA.

Acute Inflammation of the Vagina, or Acute Vaginitis, likewise termed Acute Vaginal Leucorrhea, and Catarrhal Vaginitis, is frequently met with; but is less common among middle aged females, and the unmarried.

Causes. This malady may be occasioned by exposures to cold, mechanical violence, as excessive coition, rape, manual or instrumental operations during parturition, stimulating vaginal injections, &c. It is often caused by the introduction of hard substances into the vagina, especially for the purpose of masturbating; and may arise from any source that will irritate the mucous membrane of the vulva and vagina.

Symptoms. The vagina is affected with increased heat and soreness, and becomes reddened, dry, swollen, and painful. The labia, clitoris, nymphæ, &c., are more or less inflamed, with troublesome itching. As the disease advances these symptoms augment in intensity; the vaginal walls become swollen, and puffy, giving rise to a sensation of tightness, and any attempt to introduce the finger will be difficult and painful. In severe attacks there will be, in addition to the above, a sensation of weight or dragging in the parts, and pain in the loins, hypogastrium, and along the thighs; the itching is succeeded by a painful, scalding sensation, felt more especially during urination; the desire to urinate is frequent. Constitutional symptoms occur only in the more severe forms of the disease. The papillæ are enlarged more or less, and not unfrequently there will be an inflammatory exudation.

No discharge occurs until on the second or third day, when a transparent, watery, and sometimes acrid fluid, more or less abundant, is secreted. This discharge is generally followed by a mitigation of the symptoms; but, occasionally, the local inflammation becomes very much increased, especially when the secretion is of an acrid character. In a short time the fluid assumes a white, yellowish, or greenish color, and a thicker consistence. The discharge is acid and mucous, consisting principally of squamous epithelium and epithelial debris purulent matter is found, as a general rule, only in the discharge from gonorrheal vaginitis.

Occasionally, the inflammation extends to the neck of the uterus, rendering it hot, tumefied, and very sensitive; and if the speculum can be used, the os tincæ will be observed red, swollen, and sometimes excoriated.

About the ninth day the discharge begins to lessen, its color slowly disappears, and the attack ends in resolution. The

milder forms of the disease last only a few days, while the more severe forms do not terminate for four or six weeks. Frequently, however, the discharge continues, and the inflammation gradually passes into the chronic state. Occasionally, suppuration ensues, the abscesses formed being of an indolent character; and when the attack is occasioned by mechanical injury, gangrene and sloughing is apt to follow, with the establishment of fistulous communications between the bladder or rectum, and the vagina. Narrowing of the vagina, or adhesion of its walls may occur when the inflammation is neglected, or badly treated.

It is difficult to distinguish between simple acute vaginitis and gonorrhea, as it is by no means rare for males who cohabit with females laboring under an attack of the former to become affected with a discharge resembling that of gonorrhea. The presence of pus in the discharge, enlargement of the glands in the groin, and the previous immoral or suspected character of the female, may lead us to suspect the gonorrheal nature of the attack; but we should not decide too hastily.

Treatment. The patient should be kept as quiet as possible, in the recumbent position. If the bowels are constipated they must be opened by a cathartic, and subsequently be kept free by cooling aperients. Fomentations of Hops and Lobelia leaves, or of Stramonium leaves, may be applied to the external parts, and an infusion of the same may be injected into the vagina several times a day. In some instances mucilage of Slippery Elm will be found a beneficial local application. Heat or pain during urination may be relieved by drinking freely of an infusion of Marsh-mallow roots and Cleavers, equal parts of each; or, other cooling and mucilaginous diuretic.

In very severe cases, much relief will be afforded by frequently exposing the parts to the vapor of some hot anodyne infusion; and, to keep the vaginal surfaces from adhering to each other, lint, moistened with some emollient or anodyne lotion, may be introduced along the whole length of the vagina, renewing it two or three times a day. Constitutional disturbance may be overcome by the administration of the Compound Tincture of Virginia Snake root, Tincture of Gelseminum, Tincture of Aconite, &c. After the active inflammatory

symptoms have subsided, if the discharge still continues, astringent washes and injections should be used.

M. Demarquay finds vaginitis to yield readily to the following treatment: After the active symptoms have been subdued, free the vaginal walls from mucus, &c., by copious injections of warm water, drying them by means of lint held by a long forceps, or otherwise. Then saturate wadding of lint with a mixture of eighty parts of Glycerin and twenty of Tannic Acid, and introduce three or four plugs of this kind, so as to fill the vagina. On the next day, remove the plugs, renew the injections and drying, and repeat the Glycerin dressing. Four or five such dressings generally effect the cure. After the discontinuance of the dressings, an injection composed of an infusion of Walnut leaves one quart, Alum one drachm, may be used three or four times a day for ten or twelve days, to restore the parts to their natural tone and vigor.

When suppuration is about to ensue, the abscess should be opened as soon as possible, and stimulants be frequently applied to it by injection or otherwise. If gangrene occurs, it must be treated according to indications, in the same manner as named for gangrene in "Phlegmonous Inflammation of the Labia," on page 27, giving alteratives, or antisyphilitics internally, should the patient be strumous, or tainted with syphilis.

The diet during the acute stage should be light and of easy digestion; no stimulants must be used; and every cause which would augment the inflammation be avoided.

CHRONIC INFLAMMATION OF THE VAGINA.

Chronic Vaginitis, or Chronic Vaginal Leucorrhea, is a disease which few women escape, being, however, more frequently met with during the period between the commencement and cessation of menstruation. It may be the result of an acute attack, or it may occur gradually, independent of such attack; and is more commonly owing to or accompanied with chronic irritation and relaxation of the vagina. Pregnant females are very subject to leucorrheal discharges. It is confined to the mucous lining membrane of the vaginal walls, called by W. Tyler Smith the "muco-cutaneous lining," on account of

its resemblance to the cutaneous structures. (*See Pathology and Treatment of Leucorrhea, by W. Tyler Smith, p.* 40.) And the inflammation may extend to that part of this lining membrane which covers the external surface of the cervix as far as the borders of the os uteri.

Causes. Among the *general* causes are, constitutional debility, strumous diathesis, sudden exposures, relaxation of the system from warm climate, or artificially heated rooms, high living, immoderate use of stimulants or alcoholic drinks, an idle, sedentary life, sympathetic irritations, &c. The *local* causes are mechanical injury, masturbation, irritation of the rectum from constipation, worms, &c., irritation of the bladder or urethra, frequent child-bearing or abortions, vaginal irritation and relaxation, derangement of the menstrual function, syphilitic disease, morbid growths, foreign bodies in the vagina, abuse of warm baths, secondary syphilis, &c. Excessive coitus is a common cause, and on this account a woman wedded to a sensual, animal husband, whose only consideration for his wife is to compel her to gratify his selfish passions without regard to her health, is much to be pitied, as she is constantly liable not only to the present disease, but to other maladies peculiar to the sex.

Symptoms. In chronic vaginitis there is a constant and more or less profuse discharge from the vagina, forming one of the varieties of leucorrhea, known as "Vaginal or Epithelial Leucorrhea." This is usually colorless or whitish, but it has been occasionally met with of a brownish color, and sometimes with sufficient acridity to excoriate the margins of the vulva. The discharge may arise from the lower part of the vagina, from its cervical portion, or it may occupy the whole vaginal surface. W. Tyler Smith states that in "vaginal leucorrhea, including the secretions of the external portion of the os and cervix uteri, the plasma is opaque, and contains myriads of epithelial particles in all stages of development, with pus and blood globules when the papillæ are affected." It is frequently the case that discharges take place both from the vagina and os uteri, being a combination of vaginitis, and endocervitis. Generally, there is but little heat or pain, unless the discharge be copious, when there will be more or less aching pains in the

back and loins, excessive debility, and derangement of the nervous system and digestive organs. The discharges in this affection, are, like those of the vagina usually, of an acid character, reddening blue litmus paper when in contact with them; according to W. Tyler Smith, the elements observed in vaginal leucorrhea, under the microscope, are "*acid mucous plasma*, less viscid and tenacious than that of the cervical mucus; *scaly epithelium*, from that of perfect scales to mere nuclei,—the old or broken scales not being found in the discharge from acute vaginitis, the epithelium being shed too rapidly to admit of their coming to maturity and wearing away in the vagina, as in the milder and chronic cases; *pus-corpuscles*, which are due to the more severe forms of vaginal leucorrhea, in which the papillæ become irritated; *blood-globules*, when there is an abrasion of the vaginal surface; and *fatty matter*, from the sebaceous follicles of the vulva and other external genital organs."

When the pus-corpuscles are present, from the papillæ or villi being affected, he proposes the term "Villous Vaginitis;" and when there is merely a shedding of epithelium, whether in simple scales or in masses, he proposes to call it "Epithelial Vaginitis." Not unfrequently, in this last form, "the epithelium will be thrown off in large masses or layers, in which the pavement-like arrangement of the scales will be preserved, often presenting marks of the vaginal rugæ on their upper surfaces, and indentations of the vaginal papillæ on their under; this has been more markedly observed in cases of pregnancy. An examination of the vaginal walls with the speculum, will, in these cases, frequently show them covered with a white coating which may be removed in large shreds or pieces by a forceps." The vaginal discharge in these membranous cases possesses well marked acidity.

"In health, merely sufficient mucus is secreted to keep the vaginal surface in a state of lubrication; it lines the surface as a milky fluid, and contains numerous small curdy points or masses, being the albumen of the vaginal or cervical mucus, coagulated by its acid, and a transparent or semi-transparent plasma, in which are an abundance of epithelial scales and debris. The epithelial scales separate with great rapidity, when the vagina is irritated. The spermatozoa of the male

semen preserve their energy for a considerable time in this healthy acid mucus, but are speedily destroyed when the acid is in excess; and which has, undoubtedly, an important bearing in certain cases of sterility."

According to Donne, the secretion upon a surface covered by scaly epithelium is always acid, while that from a surface covered by cylindrical epithelium is always alkaline. And we find the discharges from the vagina and interior of the uterus constantly acid, while those thrown off from the follicular surface of the canal of the cervix, just within the os uteri, on its lips, where cylindrical epithelium is found, are alkaline.

Chronic inflammation of the vagina may be accompanied with an abrasion or ulceration of a greater or less extent of the vaginal surface, owing to the constant, long continued, and abundant shedding of its epithelium, followed by subsequent destruction and ulceration of the papillæ. The ulceration is usually confined to the upper half of the vagina, and the vaginal portion of the cervix, and presents a granular surface, covered with pus frequently emitting a strong odor of sulphureted hydrogen; it is more common among strumous patients.

The symptoms which may arise from chronic vaginitis are various; the constant and copious discharge will occasion much debility; abrasion of the vaginal surface with prolapsus uteri may give rise to attacks of hysteria; the pus, in cases of ulceration, which is pent up in the vagina, may, by being absorbed, occasion night sweats, hectic fever, and diarrhea; by sympathy, the stomach and digestive organs may become deranged, as well as the brain, liver, and skin, with pains in the back, thighs, left side, &c. And these symptoms will be more constant and severe when the vaginitis is connected with uterine leucorrhea, menstrual derangements, or uterine displacements. Sterility is frequently occasioned by chronic vaginitis, especially when complicated with uterine displacement, or deranged menstrual function; and abortion is frequently caused by leucorrhea, the result of secondary syphilis in the male. (*See Uterine Leucorrhea.*)

Discrimination. "The discharge in chronic vaginitis is acid, white, milky, or creamy; brownish when stained with blood; it is more commonly opaque, and communicates a stiffness to

linen upon which it has dried, leaving a greyish spot, deepest at its edges, and is never ropy. Under the microscope it is seen to contain numerous epithelial scales. The discharge from the cervical canal, is a transparent, glairy fluid, of the consistence of the white of egg, and so slimy, ropy, and tenacious that it is removed with difficulty from the os uteri; it is frequently rendered white and soapy, or is coagulated into small masses by the acid vaginal discharge; it has an alkaline reaction, changing reddened litmus paper to its original blue, and imparts a starchy stiffness to linen upon which it has been allowed to dry, but communicates no stain.

"The only mistake likely to occur is, when the cervical discharge is so curded and broken down in the vagina by the action of acid as to resemble the vaginal discharge; but these points are readily determined by an examination of the os and cervix uteri and the vagina."

As regards the determination of vaginitis from gonorrhea, it has already been stated to be a difficult matter.*

Treatment. A mild attack of chronic vaginitis may generally be removed by injecting into the vagina several times a day, some astringent lotion, as, diluted Tincture of Chloride of Iron, a decoction of Black Willow bark, or, a decoction of equal parts of Black Cohosh and Geranium. Indeed, even in the more severe and obstinate forms of the disease, these injections will be found beneficial, especially the first one named.

When the disease is accompanied with abrasion or ulceration of the muco-cutaneous lining membrane of the vagina, one of the following injections may be used: 1, A strong decoction of Black Cohosh root, with Tannic Acid added, two or three drachms to the quart of decoction; 2, Tannic Acid two or three drachms, dissolved in a quart of Port Wine; 3, Tannic Acid one or two drachms, Alum half an ounce, Water one quart; mix and dissolve; 4, Chloride of Zinc five or ten grains, dissolved in a fluid ounce of Distilled Water, and which will be found very beneficial in most cases; 5, Tannic Acid two or three drachms dissolved in a quart of decoction of Golden Seal; 6, Creosote twenty minims, Liquor

*I am indebted to W. Tyler Smith's excellent work on the "Pathology and Treatment of Leucorrhea," for the principal part of the above description of chronic vaginitis.

Potassa two fluidrachms, White Sugar two drachms; mix, rub together in a mortar, and gradually add Water half a pint,—one half of this may be used at a time as an injection; 7, To three fluidounces of infusion of Elm bark or mucilage of Gum Arabic, add a fluidrachm of Oil of Turpentine, for an injection,—this will sometimes prove more efficacious than the astringent injections. Infusions of Beth root, Sumach bark, White Pond Lily, Marsh Rosmary, False Unicorn root, Button Snake root, &c., have been frequently used as injections, either separately or variously combined, and with considerable success. The injections should be employed three or four times a day, commonly using about a pint of the fluid each time; the female should lie upon her back, with her hips well elevated, that the injection may be retained in the vagina for five or ten minutes. It will frequently be of importance to keep the vaginal walls from coming in contact with each other, and this may be done by introducing soft sponge or lint, moistened with one of the above astringent fluids, into the vagina, carefully applying this along its whole course, and especially towards its uterine extremity; or, a ball of wool or woollen thread may be covered with lint, then moistened with the astringent, and introduced into the vagina. Other astringent solutions have been found equally efficacious, as of Sulphate of Zinc, Sulphate of Iron, Nitrate of Silver, &c. In very severe and obstinate cases, I have often found much benefit, by introducing into the vagina shortly after each astringent injection, a roll of lint upon the surface of which has been spread an ointment composed by melting together equal parts of Sweet Gum and Tallow; this appears to effect, in many instances, prompt and permanent cures. It must be retained in its place by a bandage; some lint, or a soft compress, being also held to the parts to absorb the discharges as they pass out. This ointment sometimes occasions considerable smarting for a few minutes. It will also be found efficacious when applied to the glans penis of the male, when that organ is abraded from the action of the vaginal discharge, or is affected with some herpetic eruption from a similar cause.

A very excellent injection, is a tincture made by passing diluted Alcohol one pint, through powdered Rhatany root one

ounce, Red Peruvian bark half an ounce; two or three fluidrachms are sufficient for one injection, and which, when used, may be diluted with a little water if it occasion much pain. It is well to have a knowledge of the various injections which may be used in vaginal affections, as more benefit will generally follow when they are changed from time to time, than with the constant use of only a single preparation.

Chlorate of Potassa has cured several cases of leucorrhea, some of which were accompanied with ulceration. Two drachms of the salt should be dissolved in six fluidounces of water, and then sweetened if desired; of this the dose for an adult varies from one to two fluidounces, repeated three times a day, and the best time for taking it is during or immediately after meals. At the same time the solution must be employed as a local application; from two to five or ten grains of the salt to a fluidounce or two of water.

Cyanuret of Potassium one grain, dissolved in a fluidounce of Distilled Water, and injected in the quantity of one or two fluidrachms at a time, will frequently prove advantageous in cases attended with considerable pain or irritation of the vaginal walls.

In all cases, previous to injecting the astringent lotion, the vagina should be thoroughly cleansed, each time, by an injection of cool water, employing one of the modern pump syringes, and using at least a quart at a time. When the discharges are highly acid or excessively alkaline, being acrid and excoriating, a solution of Soap may be used instead of the water, or a solution of Bicarbonate of Potassa, or of Soda, in an infusion of Elm bark, Marsh-mallow root, Hops, or Stramonium leaves; and this should be continued until the irritating quality of the discharge is removed. One great reason why so little benefit is derived from astringent vaginal injections in many cases, is the neglect to remove the mucus lining the vaginal walls and cervix, by the above preliminary washings; when this is removed the astringent lotion comes directly in contact with the diseased surfaces.

In the more obstinate cases of chronic vaginitis, internal agents will generally be required, as, tonics, alteratives, &c., according to the state of the general health. The Compound

Wine of Comfrey may be given in conjunction with some preparation of Iron, as, the Citrate of Iron, Sulphate of Iron, &c.; in strumous or scrofulous patients the Iodide of Iron will be found of value; and in cases connected with excessive menstruation, the Tincture of Chloride of Iron, or solution of Perchloride of Iron will be preferable. A very excellent tonic may be made of Buckhorn-brake root, Comfrey, Golden-Seal, Black Cohosh and Colombo, each, one ounce, Sherry Wine four pints; prepare the same as named hereafter for the Compound Wine of Comfrey—the dose is also the same. The bowels must be kept regular by mild laxatives, and the surface of the body attended to by daily bathings and frictions; and the cold douche or shower bath to the loins, together with the cool hip bath every day or two, will usually be found advantageous. The diet should be light, nutritious, and of easy digestion, avoiding the use of tea and coffee, and moderate exercise must be taken daily in the open air. Where there is any pain or irritation of the parts, tenderness, or disposition to slight bleedings, not only should the patient be kept quiet, avoiding all fatigue, but sexual intercourse must be positively forbidden.

After the cessation of the discharge, the injections and the use of the hip bath should be persevered in for some time, to restore the tone of the vaginal walls, and thereby prevent any subsequent relaxation or prolapsus. When chronic vaginitis is combined with uterine leucorrhea, which is a common circumstance, the uterine difficulty should receive the greatest share of attention until it has been removed, after which the vaginal malady will yield more readily to treatment.

In cases of "membranous leucorrhea," in which the epithelial coat of the vagina is shed in large shreds or layers, leaving an ulcerated surface exposed, and, in cases where the ulceration is an extension from a similar condition of the os uteri, Nitrate of Silver ten grains to an ounce of Distilled Water, may be applied; or Tincture of Chloride of Iron, sufficiently diluted; or, the following:—Take of Sulphate of Quinia forty-eight grains, Elixir of Vitriol two fluidrachms, dissolve, and add Distilled Water six fluidounces. The vagina, in these ulcerations, is not apt to heal, as a general rule, without having

its diameter more or less diminished; but any considerable degree of contraction may be overcome by the introduction of large bougies, commencing their employment not until some four or six months after the perfect healing of the ulceration.

PROLAPSE OF THE VAGINA.

Prolapse or Descent of the Vagina is met with more commonly among females after thirty or thirty-five years of age, and who have given birth to several children; it is always accompanied with a relaxed condition of the vaginal walls. There are three varieties of vaginal prolapsus, known as, 1, Prolapse of the anterior vaginal wall; 2, Prolapse of the posterior vaginal wall; and 3, Prolapse of the entire circumference of the vagina, either complete or incomplete.

1. Prolapse of the Anterior Vaginal Wall, also called "Vaginal Cystocele," and "Prolapsus Vesicæ," is always accompanied with a falling or descent of the bladder. (*See King's Obstetrics, p.* 331.)

Causes. This displacement is owing to a relaxed condition of the front wall of the vagina, which causes a change in the direction of the bladder and urethra, rendering micturition more or less difficult; in consequence of the urine being thus incompletely evacuated, it accumulates in and distends the bladder, the weight of which causes it to descend, carrying the relaxed vaginal wall before it. Every degree of prolapse may be met with, from a mere protrusion of the anterior vaginal wall to its appearance as a tumor within the vaginal canal or even external to the vulva. Relaxation of the vagina may be occasioned by repeated child-bearing, an abnormally large pelvis, heavy lifting, long-continued leucorrhea, improper habit of retaining the urine too long before voiding it, improper use of warm hip-baths, masturbation, excessive coition, violent exertions, severe vomitings, tight lacing, &c.

Symptoms. A sensation of dragging in the pelvic region, with a heaviness and bearing down is experienced, together with difficulty in walking; the over-distended condition of the bladder impairs its contractile power so that the urine passes

with difficulty, or cannot be discharged at all. Sometimes there is a stinging sensation felt along the urethra. Generally, by pushing the bladder up toward its normal position, and holding it there, the urine will be more freely evacuated. But little pain is complained of. When the bladder extrudes it is liable to ulceration, injuries, &c.

Upon examining the parts, a soft, elastic, fluctuating, globular swelling or tumor, will be observed, of a reddish color, or bluish from venous congestion; when fully distended, the surface of this tumor (the vaginal wall) is smooth, moist, and glossy; and only shows the transverse folds or rugæ, when the bladder has been evacuated. The tumor will be found to differ in size at different times, owing to the varying amounts of fluid retained in the bladder, and it can always be softened or lessened when the urine is drawn off by catheter. Between the tumor and the posterior vaginal wall the finger can be passed upward into the vagina, and may be brought in contact with the os uteri. But when the finger is attempted to be passed in front of the tumor, its advance is stopped in the neighborhood of the pubic arch. The mucous discharge from the vagina is always augmented, and the bladder frequently becomes irritable; the urine voided, having undergone decomposition while in the bladder, is apt to be offensive and loaded with more or less ropy mucus.

The falling of the bladder occasions an alteration in the course of the urethra, so that on introducing a catheter, instead of its passing upward behind the pubic bone, it moves more or less in a downward direction, according to the degree of prolapse; and when the tumor is at or external to the vulva, the instrument will pass downward and backward, its free external extremity looking upward at an acute angle with the abdomen.

Vaginal cystocele may exist separately, or it may be combined with some uterine displacement, or inflammatory conditions of the parts.

Discrimination. Vaginal cystocele may be distinguished from *prolapsus of the uterus*, by its soft, globular, and fluctuating character, by the downward direction of the catheter when introduced into the bladder, the point of which may be felt through the walls of the tumor, and also by the diminution of

the swelling when the urine is removed. In uterine prolapsus, the tumor is not globular but somewhat pear-shaped, is hard and unyielding, and the os uteri may be felt at its inferior extremity. It may be distinguished from *vaginal rectocele* by the finger being able to pass only in front of it into the vagina, in the latter displacement, and by catheterism causing no reduction in its size; and from *inversion of the uterus*, in which the finger cannot be introduced into the vagina at all, the tumor being hard and rough, and not lessened in size by catheterism.

Treatment. The female should be kept quiet in the horizontal position, and the bladder be kept empty as much as possible, so as to prevent its becoming so heavy from retained urine as to force the vaginal wall downward. A male or female catheter will generally be required to evacuate the bladder, and its manner of introduction can be readily explained to the patient, so that she may conduct this operation herself. In some instances it may be required to keep a curved metallic catheter constantly in the bladder; for if urine be permitted to accumulate in this organ, it will render the cure difficult if not impossible.

In addition, the vagina should be frequently injected with cold water, or cold astringent solutions, the same as those named in the treatment of chronic vaginitis; and the tumor must be replaced and supported in its proper position by some mechanical contrivance, as, an elongated, or large round sponge pessary, or a round gilt or india-rubber pessary. Or, a roll of linen of sufficient diameter may be kept within the vagina. The elongated articles should be curved so as to adapt themselves to the vaginal curvature, and may be moistened with the astringent fluid employed. Powdered Nux Vomica four drachms, may be digested in a pint of a mixture composed of one part of ordinary vinegar, and three parts of water, with which infusion the pessaries may be moistened; this may be used for several days at a time, alternating it with infusion of Golden Seal for the same length of time, and will be found of much benefit in overcoming the relaxed condition of the vaginal wall. The articles moistened with these fluids should be cleansed and renewed two or three times daily. The following may be substituted for the Nux Vomica infusion:—Take of

Strychnia one grain, Acetic Acid ten minims, Distilled Water four fluidounces; mix. Not more than two fluidrachms of this mixture must be used at any one time to moisten the pessaries. The elongated instruments will require to be kept in place by a bandage passing between the thighs. In many cases, a Blundell's pessary may be covered with lint, moistened, and worn in the vagina, with benefit. All these instruments should be made of a size calculated to distend the vagina sufficiently to prevent any portion of it from prolapsing.

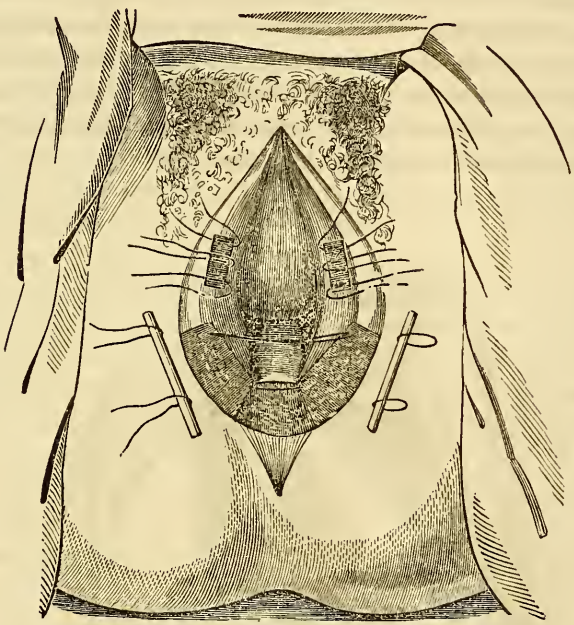
When the pessaries produce constant irritation, and no benefit is derived from the preceding treatment, the operation for radical cure may be performed, provided the female has passed the turn of life. If the operation be attempted during the period of child-bearing, a subsequent labor would be likely to occasion serious injury by the rupture of the vagina during the passage of the fetal head through it.

The plan proposed by M. Jobert, of Paris, is as follows:— "He encloses within two curved transverse lines an oval space, more or less considerable, in the posterior surface of the tumor, (or the anterior surface of the vagina,) by means of caustic, so as to form an isolated spot, repeating the application of the caustic till the mucous membrane is destroyed. He then pares the edges with scissors or bistoury, draws them together, and maintains them in apposition by means of straight needles (the points of which are removed,) and a twisted suture."

Dr. J. B. Brown's plan, which has proved successful in a number of cases, some of which were complicated with prolapsus uteri, rectocele, and lacerated perineum, is as follows:— Empty the bladder and rectum, place the patient under the influence of Chloroform, in the same position as that named for the treatment of ruptured perineum, each leg being supported by an assistant, while a "third assistant holds up the tumor, pressing it under the pubes in its natural position by means of a Jobert's bent speculum. In order to contract the vagina laterally, so as to prevent the tumor from falling down from above, a piece of mucous membrane, about an inch and a quarter long and three-quarters of an inch broad, is to be dissected off longitudinally, just within the lips of the vagina, on each side of it, as seen in the cut, Fig. 12, the upper edge of

the denuded part being on a level with the meatus urinarius. The edges are to be drawn together by three interrupted sutures on each side.

Fig. 12.

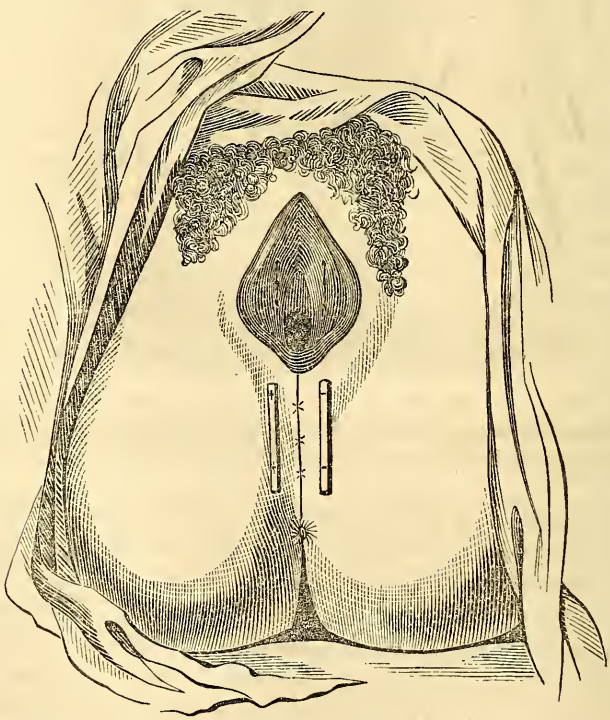


The different denuded surfaces are here shown, together with the interrupted sutures to the upper or lateral ones, and insertion of the quill sutures in the lower or posterior one.

"The second step of the operation is for the purpose of contracting the vagina posteriorly; and thus in the end, by contracting the vaginal orifice at least two-thirds, and by so adding to the extent of the perineum, that, should the prolapsus not be restrained by the lateral contractions, it cannot extrude beyond the orifice of the vagina, but must necessarily fall upon the new perineum. This part of the operation consists in dissecting off the mucous membrane of the vagina laterally and posteriorly in the shape of a horse-shoe, the upper edge of the horse-shoe commencing half an inch below the lateral points of denudation, taking care to remove all the mucous membrane

up to the edge of the vagina where the skin joins it, as seen in Fig. 12. Two deep sutures of twine are now to be introduced about an inch from the margin of the left side of the vagina, and brought out at the inner edge of the denuded surface of the same side, and again introduced at the inner edge of the pared surface of the right side, and brought out an inch from its margin, thus bringing the two vascular surfaces together, keeping them so by means of quills, as in the operation for ruptured perineum. (*See Fig.* 13.) The edges of the new perineum are lastly united by interrupted sutures, and the patient placed in bed on a water-cushion.

Fig. 13.



The parts are here shown, brought together after the completion of the operation.

"The after treatment is similar to that pursued after the operation for ruptured perineum. Opium is to be given to

allay irritation and pain, and to prevent defecation; the strength is to be supported by nourishing diet and wine; water dressings applied; and perfect repose enjoined. Injections must not be used, nor the sutured parts be interfered with in any way. It is of great importance that the bladder be kept empty, and this point is best secured by retaining a bent metallic catheter in the bladder, with a gum elastic bag attached to its external extremity to receive the urine as it escapes. After the seventh or tenth day, according to the integrity of the union of the parts, the patient may pass the urine resting on her hands and knees. The deep sutures may be removed, according to circumstances, on the third, fourth, or fifth day, and the others a few days afterward."

2. Prolapse of the Posterior Vaginal Wall, also called "Vaginal Rectocele," differs from prolapse of the anterior wall, in the posterior portion of the vagina being relaxed, and forming a protuberance from a descent or pressure of the rectum.

Causes. A very common cause of vaginal rectocele is habitual constipation, in which the rectum, being overloaded and distended with fecal matter, becomes relaxed, presses upon the posterior vaginal wall, and finally displaces it. It may likewise be occasioned by the long continued use of active cathartics; straining at stool; pressure upon the rectum by a displaced uterus, or when this organ is augmented in size; rupture of the perineum; as well as by some of the causes named in the preceding prolapsus. The tumor may be of various sizes, seldom larger than an egg, and is more difficult of cure when suffered to continue for a length of time without treatment.

Symptoms. The pains, heaviness, bearing down sensations difficult walking, &c., are similar to those named in vaginal cystocele; especially will there be a more or less constant desire with painful and ineffectual attempts to evacuate the rectum, and as the swelling increases urination will, to some extent, be interfered with. When the disease is prolonged it is apt to occasion prolapse of the uterus, in cases where this displacement did not previously exist. Relief is always obtained after a free discharge per rectum.

Upon an examination of the parts, a compressible, globular, but not fluctuating swelling or tumor will be found, varying in size according to the degree of prolapse, but becoming smaller when the rectum is emptied. By pressing upon the walls of this enlargement, the hardened feces may frequently be distinguished. When fully distended, the vaginal surface of the swelling is smooth; and the rugæ of the walls of the vagina will be seen when the enlargement diminishes after a rectal discharge, but they will not be so small and regular as the rugæ on the anterior walls. Between the tumor and the anterior wall of the vagina, the finger can be readily passed upward into the vagina, and may be brought in contact with the os uteri. If the finger be passed into the rectum, it will find a bag or cavity at that part where the tumor is situated, and the point of the finger may be felt within this cavity, by introducing a finger of the other hand into the vagina.

Discrimination. Vaginal rectocele may be distinguished from *prolapsus of the uterus*, by the greater softness and compressibility of the tumor, its diminution when the rectum is evacuated, and, by finding the os uteri in front of or just above the tumor. It may be distinguished from *vaginal cystocele*, by the passage of the finger into the vagina being in front of the tumor, and by the non-fluctuating character of this swelling; and from *inversion of the uterus*, in which the finger cannot be introduced into the vagina at all, the tumor being hard and rough, and not lessened in size by emptying the rectum.

Treatment. The patient should be kept as quiet as possible in the horizontal posture, and the bowels should be evacuated once or twice a day by means of injections. The local applications to the vagina, astringents, elongated pessaries, &c., to restore tone to the vaginal wall, as well as to support it in its proper position, will be similar to those named in the treatment of Prolapse of the Anterior Vaginal Wall, on page 113; and always, immediately after an evacuation from the rectum, the fluids used for the vagina may also be injected into this intestine.

The surgical operation for vaginal rectocele is the same as that named for vaginal cystocele, omitting, however, the denudation of the mucous membrane on each side of the anterior

vaginal wall, and consequently, the use of the interrupted sutures at these points. The object of the operation being to contract the posterior vaginal wall, the mucous membrane of the sides and posterior wall of the vagina only, need be pared off in the horse-shoe form, and then united in the manner heretofore named, on page 116.

3. Complete or Incomplete Prolapse of the Entire Circumference of the Vaginal Wall, is rarely met with except in connection with some uterine displacement, when it will require the same treatment as named under Prolapsus Uteri.

It may occur, however, independent of uterine prolapsus, and most always unconnected with descent of the bladder, or of the rectum. The prolapse may vary from a slight displacement of the vaginal walls at any portion of their length, to their descent to the vaginal orifice, or even external to it. The absence of any tumor upon compressing the fallen walls, will determine whether cystocele or rectocele be present, and the situation of the os uteri, &c., will inform the practitioner of the existence of any uterine displacement. When the prolapse has been long in continuance, and the descent considerable, an orifice will be felt in the center of the prolapsed walls, which may be mistaken for the os uteri; but, if the finger be carried further upward through this aperture it will come in contact with the true uterine mouth. In vaginal prolapse there is more or less bearing down sensation in the pelvis, a dragging from the umbilicus, a feeling of fulness and swelling about the rectum, great fatigue on walking, impaired appetite, loss of tone of the digestive organs, leucorrhea, &c., the severity and number of symptoms depending upon the degree of prolapse. The more severe forms of this affection interfere with coitus, and are apt to occasion irritation or inflammation, vaginal excoriation or ulceration, menstrual derangement, dysury, constipation, &c.

The treatment will consist in the reduction of the parts, elongated pessaries, astringent local applications, &c., as in the preceding forms of prolapse, always being careful to previously remove any swelling and inflammation which may be present. If these fail, and the female has passed the turn of life, the

surgical operation named under Vaginal Cystocele may be performed.

LACERATION OF THE VAGINA.

Laceration or Rupture of the Vagina is apt to occur during labor, when a large fetus is forcibly expelled through the vagina by the uterine contractions; or, it may occur during manual or instrumental operations for the delivery of the child; and, sometimes, at other periods than those of labor, the vagina may be lacerated or contused by some mechanical injury. These lacerations may take place in any part of the vagina, and frequently terminate fatally, especially when profuse hemorrhage follows the accident, or when severe peritonitis supervenes.

In the treatment of laceration of the vagina, it will be necessary to prevent the parts from contracting as they heal, else, an impediment to coitus and parturition may be thereby caused. This may be prevented by plugging the vagina with lint upon which sweet oil, or some soothing ointment has been placed; the bladder must be evacuated two or three times a day, and no urine permitted to fall upon the injured parts. If after healing, contractions should form, relief may be attempted at first by the introduction of bougies; if these fail, the cicatrized parts should be freely divided, and then dressed by plugging the vagina with lint, as named above. (For Rupture of the Vagina during Labor, see King's Obstetrics, page 488.)

Foreign bodies are sometimes found in the vagina, the presence of which gives rise to various symptoms, as severe pain, irritation, inflammation, ulceration, dysury, perforation of the vaginal walls, offensive discharges, &c., &c. The location of the body, its size, form, and consistency, should be ascertained as accurately as possible, by vaginal, and, if necessary, rectal exploration; and then it should be carefully removed by forceps, blunt hook, or other appropriate instrument. In some instances, it may become necessary to break the foreign body, or otherwise separate it, before it can be removed; in others, it may be required to dilate the vaginal walls by means of a speculum, for the purpose of readily removing the substance,

and at the same time protecting the vagina from injury, should sharp or ragged surfaces be present. The symptoms or conditions remaining after the removal of the foreign material must be treated by suitable measures.

Contusion of the Vagina may be treated similar to that named for Contusion of the Labia, on page 35, and *Gangrene of th Vagina*, similar to that recommended under Gangrenous In flammation of the Labia, on page 28.

RECTO-VAGINAL ABSCESS.

Recto-Vaginal Abscess is usually occasioned by mechanical injury to the part, as the forcible delivery of the fetal head, kicks, falls upon hard, pointed substances, &c.; it may also be the result of inflammation; and sometimes occurs without any assignable cause.

Symptoms. The patient complains of great pain in the part, with a feeling of fulness, heaviness, and bearing down; and these symptoms are augmented during an evacuation from the rectum, or when the patient stands or walks about. If the inflammation be severe, the general system will suffer, the patient experiencing headache, aching sensations in the limbs, with fatigue, quick pulse, nervous irritability, &c.; in very severe attacks the glands in the groin will enlarge. A throbbing sensation is experienced as the suppurative stage advances, and when perfected the more severe symptoms diminish. Rigors usually announce the formation of matter.

An examination in the early part of the inflammation will find the cellular tissue between or in proximity to the vagina and rectum more or less swollen, firm, and very sensitive to the touch; the enlargement becoming soft and fluctuating as th suppuration progresses. The abscess may discharge into th vagina, or the rectum, or the matter may permeate the cellular tissue and find an exit at some remote point. The discharge is commonly very offensive, and will continue for a longer or shorter time, owing to the kind of treatment, or the constitutional habit of the patient. Parturient females generally suffer more seriously from these attacks than others.

There can be no difficulty in recognizing the tumor, if a

careful examination be made, though its correct character cannot always be ascertained until suppuration has ensued, which may sometimes happen as early as in twenty-four hours from the commencement of the attack.

Treatment. During the inflammatory stage, poultices of Elm and Lobelia leaves may be applied, or these articles may be made into an infusion and injected into the vagina. A warm hip or sitz bath may be used several times a day, the bath being composed of an infusion of Elm, Lobelia, and Stramonium leaves. Warm water will frequently answer to afford relief.

Sometimes the progress of the abscess may be arrested, especially in its early stage, by touching the surface of the swelling freely with Nitrate of Silver, with oil of Turpentine, or, by the application of an Ice poultice; though some care will be required in using the latter agent, lest mischief ensue. Of course, these attempts to check the advance of the disease will be useless when it is occasioned by mechanical violence. The patient should be kept quiet, and the bowels be evacuated once or twice a day, by laxative injections.

As the matter when formed, may permeate the tissues and be discharged at some point not desirable, it will be better to discharge it as soon as possible, by making an opening in the abscess at its most inferior part. After the matter has been discharged, the parts usually heal without difficulty. But should the abscess become indolent, stimulants may be applied or injected into it; and the vagina should be cleansed two or three times a day with a solution of Castile Soap in soft water.

When the abscess is indolent,—when its cause is not well ascertained,—when there is a long continued discharge of matter, or a tendency to the formation of new abscesses, and when the disease occurs among parturient women, the following may be given after the subsidence of the inflammatory symptoms:—Take an ounce, each, of Ground Centaury, Burdock seed, and Red Peruvian bark, and place them to digest in two pints of Wine,—the dose is half a wineglassful three or four times a day. In cases of great debility a generous diet should be used. Any fistulous formation must be treated upon the same principles as ordinary fistula in ano.

Tumors of various kinds may be found in proximity to the vagina, as polypus, warts, encysted tumors, fungous or carcinomatous tumors, &c. Frequently these may continue for years without occasioning any unpleasant symptoms, or the least inconvenience or danger to the patient. Sometimes the symptoms will be very annoying and severe, and the disease of an alarming character.

Some of these tumors may be found within the vagina, others, in the tissue between the rectum and vagina, in any part of the vagina beneath its mucous membrane, or, attached to some portion of the pelvic bones. A careful exploration will detect the tumor, its location, size, form, and frequently its character.

When the symptoms and character of the tumor are not of a serious nature, the best plan is to let it alone, unless indeed it be within reach, and easily operated upon by excision, puncture, or removal by forceps, as with polypus; care should always be taken to ascertain that no fatal results may ensue from the operation. Pregnancy, in which the existence of a tumor may interfere with delivery, and hazard the lives of mother and child, is a condition demanding an operation in all cases where it may be safely performed.

The tumor, when not removed by an operation, will, of course, under ordinary circumstances, require the local and constitutional treatment adapted to its character. And, after the evacuation of the contents of an encysted tumor, the sac must be destroyed, or the tumor will return. (*See King's Obstetrics, p.* 337.)

FAULTY CONDITIONS OF THE VAGINA.

There are several conditions connected with the vagina, which may interfere with the menstrual evacuation, with coition, or with parturition; these are 1, Absence of the Vagina; 2, Obliteration of the Vagina; 3, Obturation of the Vagina; 4, Imperforate Vagina; and 5, Stricture of the Vagina. The first four varieties, are also termed "Atresia Vagina."

1. Absence of the Vagina is occasionally met with, the vagina being entirely wanting, with a proximity of the rectum,

bladder, and urethra; or, its canal may be found deficient in its length, and not communicating with the uterus, should this organ be present. This condition is seldom ascertained until at the period of puberty, when it is found that menstruation is absent, or else, that this discharge takes place from the rectum, the urethra, or some other unnatural place. The health of the patient does not suffer, unless, the uterus being present, the catamenial flow does not ensue in some manner. Of course, this condition of the vagina is irremediable; though, in rare instances, where some extent of vaginal canal is found, a sharp pointed instrument may be carried up through the upper part of the vagina toward the os uteri, and the opening made be preserved for the purpose of menstruation by the introduction of a small bougie. But this is a dangerous operation, as the bladder may be injured, or some portion of the peritoneum, &c., and should not be performed until after the most careful and rigid examination of the parts, and by consent of consulting practitioners.

2. Obliteration or Cohesion of the Vagina, is generally the result of inflammation; the vaginal walls may adhere throughout their whole length, or the adhesion may be limited to one or more portions of the canal, so as to prevent all communication with the uterus from without. It may occur from inflammation after delivery, or be occasioned by improper vaginal injections, and the introduction of foreign bodies within the vagina. Cohesion of the vagina is sometimes irremediable, and may prove fatal, especially when occurring after conception. The vaginal walls may sometimes be separated in the same manner as recommended for Cohesion of the Labia, page 34; keeping them afterward apart by elongated pessaries, or rolls of lint, oiled, or moistened with emollient fluids. If this cannot be effected, and the patient's life is at stake, a difficult and hazardous operation may be attempted, as the dernier resort. The female must be placed in the position described in the operation for Rupture of the Perineum, page 62, having previously evacuated the bladder and rectum; the operator will then proceed to carefully divide the adherent vaginal walls, using a bistoury, a convex scalpel, scissors, or his fingers, alternately, as may be required. In order to

avoid injuring the rectum, or urethra, the operator should keep the index finger of the left hand in the rectum, while a sound is introduced into the bladder, an assistant holding it and lifting the urethra upward and as much as possible out of the way of the knife, &c. From time to time, the operator will feel all around the parts to ascertain that his operation is proceeding in the right direction. After the operation, the canal must be kept open by the means named above, and inflammation or hemorrhage, must be treated upon general principles.

3. Obturation of the Vagina may be occasioned by foreign bodies in the vagina, (see page 120) by various tumors, as referred to on page 123, by prolapsed conditions of the vagina, see page 111, and by adhesions of a prolapsed uterus to some part of the vaginal walls. Menstruation is not necessarily interfered with in obturation, though coitus and parturition will be more or less impossible. As the principal causes of this difficulty have already been treated upon, it only remains to say that utero-vaginal adhesions, though difficult of removal, may sometimes be separated when they are within reach, by a careful use of the knife or scissors,—keeping the uterus elevated by means of a Blundell's pessary, after all tendency to inflammation, &c., has been removed.

4. Imperforate Vagina interferes with menstruation and coition; it is seldom discovered until the menstrual period, and at that time occasions many painful symptoms, in consequence of the menstrual fluid being retained. The most common cause of this condition is an imperforate hymen, the management of which has been explained on page 25. Occasionally thick folds of mucous membrane, or bands of cellular tissue, &c., will be found at some portion of the vaginal canal, usually near its orifice. These will require an operation similar to that for imperforate hymen, being careful not to injure the urethra, bladder or rectum, which latter organs should always be emptied previous to the operation. The opening thus made may be prevented from closing by the introduction of tents, or rolls of lint, well oiled.

5. Stricture or Narrowness of the Vagina may be congenital, or it may be due to a thickening of the vaginal walls occasioned by inflammation, or their contraction. It will in-

terfere with coition and labor. Stricture of the vagina may generally be removed by cautiously dilating the vaginal canal with bougies, in the same way as pursued in treating stricture of the urethra; and the dilation may be aided by warm hip baths, emollients, oleaginous injections. The bougies may be introduced daily, or every other day, according to the degree of irritation produced, which, if severe, must be overcome by the baths, &c.

I have met with cases in which, after the employment of astringent injections, there has been a firm spasmodic contraction of the vaginal wall, so as to prevent the introduction of the index finger, being in a few instances attended with a cramping sensation. I am not aware of any other difficulty ensuing,—the contraction ceasing as soon as the parts were restored to their normal condition by the treatment employed.

A few instances are recorded of *double vagina*, or, the separation of the vagina into two canals by means of a membranous partition passing through it, longitudinally. As this is apt to interfere with parturition, the septum or partition may be divided by means of a strong pair of scissors.

VESICO-VAGINAL FISTULA.

By Vesico-Vaginal Fistula is understood an abnormal opening between the walls of the bladder and vagina, through which a greater or less proportion of urine flows, instead of through its natural channel, the urethra. It is not a very frequent malady; and though very distressing and disgusting in its character, it is not, necessarily, fatal. Heretofore, it has been a very difficult, if not impossible matter, to effect radical cures of this deplorable accident; but, modern surgery has enabled surgeons to do much in the way of cure, especially since the introduction of the method made known to the profession, by Dr. J. Marion Sims, of New-York city.

Causes. The causes which may occasion this accident are as follows:

1. Wounds of the vaginal walls by sharp instruments, whether produced intentionally or unpremeditatedly; and

which sometimes occurs during attempts to procure abortion by the use of a stilette or other instrument.

2. The prolonged retention of a pessary or other foreign body within the vagina, in consequence of which, inflammation, followed by ulceration of the vaginal walls, extending into the bladder or rectum, is produced. This cause is, however, a rare one.

3. Prolonged pressure of the child's head upon the soft parts, especially upon the vesico-vaginal portion which is jammed against the pubic bone by the head, as in a tedious labor, whereby inflammation and ulceration are occasioned. The perforations produced may be between the vagina and rectum, but more generally between the bladder and vagina, and particularly if urine be allowed to accumulate in the bladder, distending it and forming a swelling in advance of the fetal head.

4. Violent or unskilful manual or instrumental operations during labor, especially when attempted without previously evacuating the bladder.

5. Faulty condition of the vagina during labor, as narrowness, thickening of its walls, cicatrices, &c.

6. Malignant ulceration of the uterus or vagina, may perforate the bladder, or rectum, or both, as cancer, corroding ulcer, &c.; when this is the case, a cure is impossible.

7. A stone or other foreign body in the bladder at the period of labor, in which the vesico-vaginal walls are forcibly and continuously compressed between the fetal head and the stone.

8. Abscesses, syphilitic ulcerations, &c., have occasionally produced this malady.

Vesico-vagina fistula is more common in first labors, which, from the diminished size of the pelvis, the unyielding character of the soft tissues, and the large size of the fetal head, are tedious and difficult; though it has occurred in females who had previously passed through several successful labors.

Symptoms. The constant and involuntary flow of urine is the principal symptom in this unfortunate accident. And this alone is sufficiently grievous, as, from the odor emanating from the clothing which is perpetually wet with urine, the patient

becomes offensive to herself as well as to all those who may be about her; compelling her to withdraw from society and to reluctantly lead a life of seclusion. "She lives the life of a recluse, without the comforts of it, or even the consolation of its being voluntary. It is scarcely possible to conceive an object more loudly calling for our pity, and strenuous exertions to mitigate, if not remove, the evils of her melancholy condition." (*Churchill.*) But, beside the fetor from the urine, the escape of this fluid irritates, inflames, or excoriates the vagina; the thighs and external parts are also excoriated by its contact with them, and a pustular eruption is commonly observed on their surfaces, which occasionally gives rise to sloughs and indolent ulcerations.

If the rupture occurs at the time of delivery, the incontinence of urine ensues immediately; if the perforation be due to a sloughing of the parts, the involuntary flow of urine will not be manifest until six, ten, or twelve days after labor, or whenever the slough falls off.

The fistula may be confined to the canal of the urethra; it may be situated at the neck of the bladder, or internal extremity of the urethra; or, it may be seated in some part of the body of the bladder. The perforation may run transversely, obliquely, or antero-posteriorly; it may be longitudinal, and is sometimes more or less circular.

When from the constant dribbling of urine, a vesico-vaginal fistula is suspected, the surgeon should institute a minute examination. The female may be placed on her hands and knees in the position advised by Dr. Sims, and explained on page 86. A catheter should be introduced into the bladder, and the index finger of the other hand be passed into the vagina; if there be any perforation the finger in the vagina will come in direct contact with the catheter, at the point where the rent exists. By having assistants to draw back the nates, while the female is in the position named, the fistulous aperture can be seen and felt, as well as the whole of the vaginal walls; and the examination is rendered more satisfactory, if an assistant passes Sims's lever speculum, (*Fig.* 14,) into the vagina, and then by strong traction upward, elevates the perineum and the recto-vaginal septum. It is not always a very

easy matter to ascertain the existence of a vesico-vaginal fistula, and much care must be taken to learn not only its presence, but its size, position, and exact relations. A cicatrix in the vagina, contractions of the vagina, &c., render the examination more difficult. Any bands, adhesion of the vaginal walls, bridles, &c., which are found to exist, must invariably be divided previous to the operation hereafter explained. This examination is always required, as the involuntary flow of urine may be owing to a paralytic condition of the bladder, and not to a fistulous opening.

As to the curability of the disease, Dr. Brown says, "When the fissure is far back, and there is considerable loss of substance, success seldom attends the efforts used; but when it is near the neck, there is a better hope of success." Dr. Sims says, "I think I may say that almost every case of this hitherto intractable affection is rendered perfectly curable."

Treatment. The treatment for this disgusting infirmity has heretofore been very unsuccessful, and in those rare cases where a cure has been effected, the general principles of the treatment pursued have been so imperfect or so indefinite, as to give but little hope for the recovery of subsequent cases; it is not, therefore, necessary to enter into any description of the various operations which have been advised, as, plugging the vagina, at the same time keeping a catheter in the urethra, —actual cautery, &c. Among the surgeons who have done much toward advancing a correct mode of operating in vesico-vaginal fistula, may be named the following: M. Jobert (de Lamballe,) who has cured many cases by the treatment explained in his work, entitled "Traité des Fistules Vesico-Utérines, Vesico-Utero-Vaginales, Entero-Vaginales, et Recto-Vaginales," 1852. Dr. Hayward, of Boston, has also operated on several cases with success; an account of his operation will be found in the American Journal of Medical Sciences, August, 1839, and in the Boston Medical and Surgical Journal, Vol. 45, No. 11, April 16, 1851. Dr. Mettauer has also cured several cases, by the plan named by him in the American Journal of Medical Sciences, July No., 1847. Drs. Pancoast, Spencer Wells, Hobart, and several others, have effected cures in a few instances, but to Dr. J. Marion Sims, now of New-York city,

is due the credit of introducing a mode of successful treatment, the general principles of which are applicable to all cases; the operation known as "Sims's Operation," is fully explained in the American Journal of Medical Sciences, January No., 1852.

Certain preliminary measures have been advised in the treatment of this malady, the most important of which, are: 1, Dilation of the vagina by large sponge tents, so introduced as not to enlarge the fistulous orifice; where the vaginal walls are very much relaxed this dilation will be unnecessary; 2, The patient should be kept confined to her bed for several days previous to the operation, giving her large doses of oxgall at the same time, which will open the bowels, and also lessen the tendency to subsequent disagreeable symptoms; 3, To prevent the tendency to profuse urinary deposits, which irritate and interfere with the closure of the fistula, Sulphuric Acid should be administered for some days previous to the operation.*

My colleague, Prof. A. J. Howe, M. D., who has successfully operated several times in vesico-vaginal fistula, has kindly permitted me to extract the following relative to the operation, from the manuscript of his forthcoming work on Surgery.

"*Operation for closing the Fistula.* The operation for closing vesico-vaginal fistulas, consists, when the laceration is not recent, in abrading the edges of the abnormal opening, and then bringing them together with such sutures and apparatus as shall retain the parts in place until they be joined by vital adhesion.

"The manipulation necessary to close a fistula of this kind, being carried on within a cavity, a greater variety of instruments, and more patience and skill are required, than in dressing a simple wound. The affection is obstinate, and has puzzled the brains of the most ingenious surgeons. The variety of the lesion renders it extremely difficult to overcome by following any of the methods in vogue. Many cases need no other treatment than the frequent use of the catheter, and slight caustic applications to the wound. In a few instances of old fistulas, the parts have become so much changed by prolapsion of the bladder and adhesions, that any kind of an opera-

* History and Treatment of Vesico-Vaginal Fistula, by P. M. Kollock, M. D., Augusta, Ga., 1857.

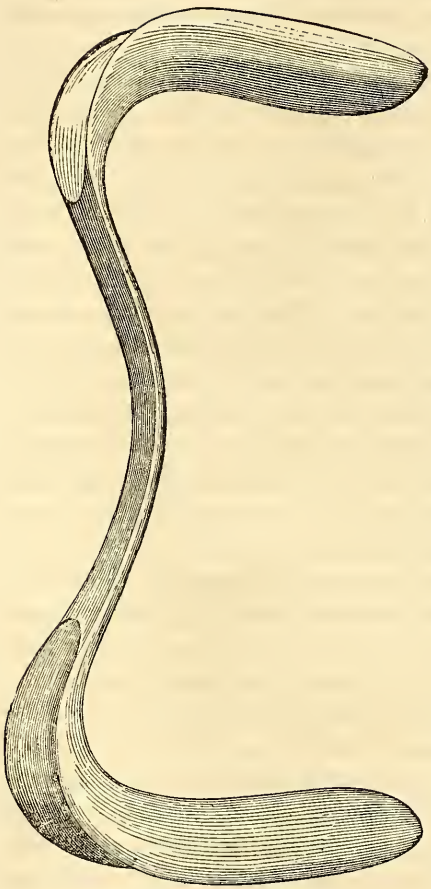
tion would be impracticable. To decide upon the most appropriate treatment in any given case is not always an easy matter.

"The profession of the present day is indebted to Dr. J. Marion Sims, of Georgia, (more recently of New-York city) for a self-retaining catheter, and the prone position of the patient, while operating. (See page 86.) And these have proved to be valuable aids in the treatment of this hitherto intractable affection. Dr. Sims also claims to have discovered a kind of suture that is superior to all others in certainty of action and facility of application. This he designates as the "clamp suture," though it is, in reality, the old-fashioned quilled suture, silver wires being used instead of threads, and shot instead of knots. Dr. Sims has been very successful in treating vesico-vaginal fistulas, yet there are surgeons who, undoubtedly, have been as fortunate as he. Much credit is due him for his valuable suggestions, and the impulse his discoveries have made in this branch of Surgery.

"In an ordinary case, the vesico-vaginal septum is found to have yielded transversely, somewhere between the urethra and the ureters, or through that part of the bladder known as the trigonus vesicalis, or vesical triangle; and the edges of the fistula will be thick and callous, from the irritation kept up by the constant dribbling of urine over them. This cartilaginous induration is not present in a recent case, but there will be more or less of it in cases of three months' standing, or over. And in old fistulas the borders are so hard and unhealthy that the stitches will tear or ulcerate out, unless this unyielding tissue be removed in the abrading or *freshening* process.

"The best position in which the patient can be placed for the operator to view the rent, is the one proposed by Dr. Sims. (See page 86.) The patient is supported by folded quilts and pillows placed upon a table of suitable size and height, with the nates elevated above the shoulders; but for the convenience of the patient she may be inclined a little to the left side, and which will not impede the operator. The forward gravitation of the abdominal and pelvic viscera elongates the vagina to the extent of relieving it of folds; and the atmospheric pressure aids in distending the vaginal tube. By thus arranging a

Fig. 14.



Sims's Duck-Billed Dilator.

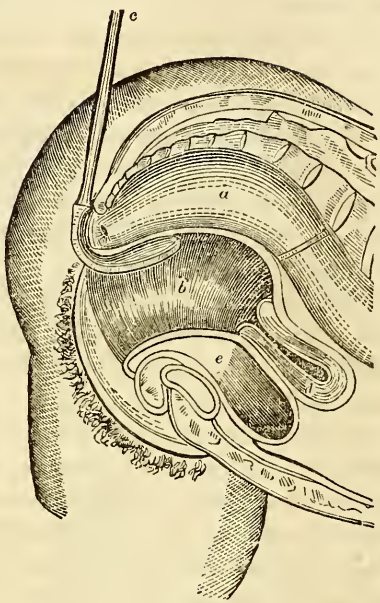
patient in a strong light, the rent may be brought fully into view. Before scarifying the edges of the wound, the patient may be placed under the influence of an anæsthetic; yet a woman of resolution will undergo the operation without any more active sedative than a dose of opium, as the pain caused by the operation is, comparatively, trifling.*

"The vaginal canal may be dilated with a wide spatula or speculum having curves four or five inches from the end, and which is known as the "duck-billed dilator," or "speculum." (*See Fig.* 14.) The duck-billed end of this instrument is to be carried into the vagina, when an assistant, by lifting up the other end, elevates the rectum, and thus

*It has been advised as the best position for the operation, and one which renders the presence of more than one or two assistants unnecessary, to bend the patient over an old-fashioned wash-stand, or, over the back of a chair, preventing these from injuring her by quilts and pillows placed between her body and the chair or wash-stand; her knees are then to be separated and properly confined, by means of bandages, to the legs of the wash-stand, so as to be at a right angle with the bed upon which the whole is placed, while her arms are to be extended, and also fastened by bandages. Or, an upright board may have another board attached to its upper end and pass downward, forming an inclined plane; openings may be made in this apparatus at the proper points, for the purpose of immovably securing the limbs of the female by means of straps; some kind of soft padding should be placed upon the surface of the boards to protect the patient's body from injury. In this position, the nates may be drawn apart, as named on page 128, and the patient be kept in a state of anæsthesia when desired, and, likewise, in proper position, until the operation is concluded. Whichever of these plans for position be adopted a good light must be had, and the operator should have sufficient room to perform every part of the operation unimpeded, even to the disposal of the several instruments which may be required from time to time.

gives the operator more room to carry on his manipulations. (*See Fig.* 15.)

Fig. 15.



Showing the duck-billed dilator applied as stated in the text, *a*, rectum; *b*, vagina raised by elevator *c*; *d*, uterus; *e*, bladder.

"To freshen the borders of the fistula well, is an essential part of the operation. It is, generally, best performed with a bistoury, the blade of which, to within a short distance of its point, is dulled, or, it may be wound with adhesive plaster. The part to be denuded, which is the hard edge of the rent, should be seized with a long pair of toothed forceps that have a slide or catch by which to fasten their grip, and then, with the point of the bistoury a *paring* or denudation is to be started and carefully continued completely around the opening. To steady the parts, it will be necessary to liberate the forceps and grasp the border further along as the paring advances, and thus by repeated seizures finish the operation of freshening. I prefer the forceps to the tenaculum, for holding the edge of the wound. During the freshening operation, the blood, which is always present, may be removed by means of small pieces of sponge fastened to one end of a stick of whalebone, like a straight probang. Several of these probangs should be a hand, and one assistant will be necessary to wash them in cold water as they become saturated with blood, and to pass them to the operator as he may need them. When the wound becomes covered with blood, so that the operator cannot distinctly see it, he will temporarily transfer the handle of the forceps to the assistant, from whom he will receive the probang, and sponge the parts he desires to see. The hemorrhage

may be considerable during the process of denudation, but not dangerous.

"In an ordinary case, the freshening of the fistulous edges is not attended with many perplexities; but when the vagina contracts into heavy folds, and the mucous coat of the bladder prolapses like a fungous mass, the operation is fraught with difficulties; and, in the latter instance, it will become necessary to pass a catheter or sound through the urethra into the bladder, and return the protruding organ by pressing its fundus upward.

"A piece of soft sponge placed within the fistulous opening, and allowed to remain until the abrasion is completed, will sometimes be found to aid in the operation, by distending the parts, and absorbing the fluids.

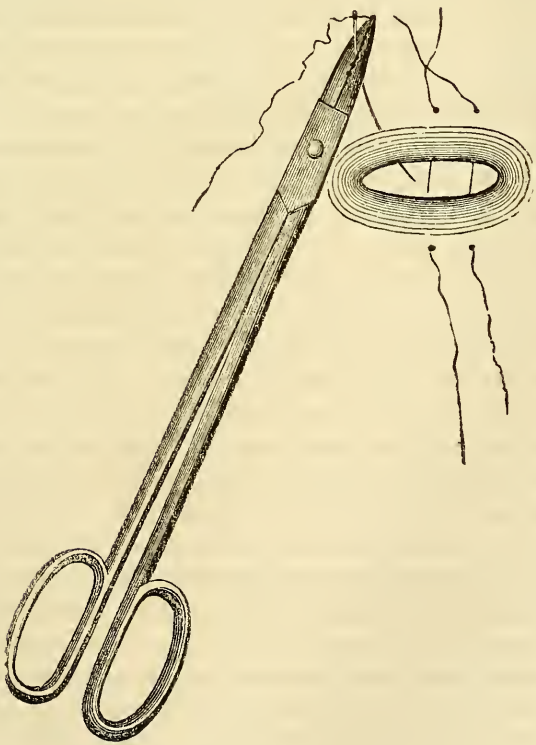
"In fistulas that are only large enough to admit a common probe, the folds of the vagina constitute an obstacle to the freshening process. In such cases, the margin of the aperture should be seized with a toothed-forceps, or, a tenaculum, and drawn into view, when a piece as large as a dime, including the orifice, should be excised. A fistulous opening large enough to admit the finger, after it has been freshened, is not so difficult to treat with sutures as a smaller one.

"The freshening process reduces the fistula to the character of a fresh wound, and it only remains to close the opening with sutures. These may be of silk, hemp, or annealed silver wire. The latter are the best, as they give steadiness to the walls of the rent, and produce the least irritation. The size of the wire should not be as large as the eye of a surgeon's needle; it may be a little larger than horse-hair. Dr. Sims passes silk ligatures first, and then knotting these to the silver wires, makes them take the place of the former. He likewise uses long awl-shaped needles, with spear-like points, for passing the threads, and with a flattened blunt-hook catches the loops of the ligatures upon the further side of the wound, retaining them, after each stitch, until the needle is withdrawn. In place of Sims's suture-passing instruments, I prefer, in most cases, a long pair of forceps whose grasping extremities are grooved in various directions, so that a needle may be held in any desired position or angle. The needles must be short,

curved, and well tempered. As many needles, as the size of the fistula may require, should be prepared ready for use, being armed, each, with annealed silver-wire about fifteen inches in length.

"To insert these needles, each, in turn, is seized near the eye with the forceps, at a suitable angle; generally, with the point directed backward, toward the handles of the forceps, as most fistulas are transverse to the vaginal tube, and the needle should be inserted into the most distant point first. Each needle should be made to enter the sound tissue about a third of an inch from the edge of the rent, if clamps are to be used,

Fig. 16.



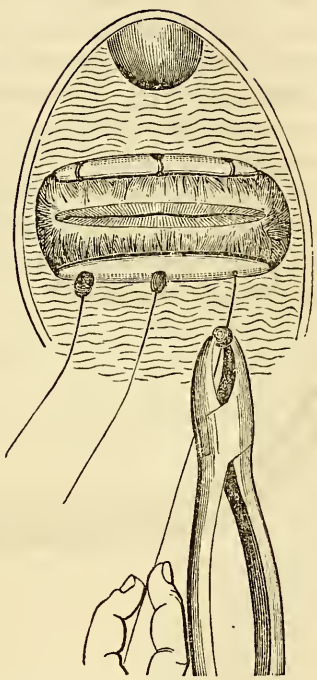
Howe's Forceps and Needles.

but if not, the needle should be made to enter very near the edge, say about one eighth of an inch from it, and appear in the wound near the mucous membrane of the bladder without perforating it. The forceps are then liberated from their hold near the eye of the needle, and are made to grasp the point of the needle as it protrudes at the edge of the mucous lining of the bladder, drawing it through a few inches. Liberating the forceps, the needle is again seized near the eye, and its point is made to enter the other edge of the fistula near the mucous lining of the bladder, and exactly opposite to the place from which it has already been made to emerge; passing it through the sound tissue and mucous lining of the vagina to a point corresponding with its entrance upon the opposite side. (*See Fig.* 16.) The eye of the needle now being liberated, its projecting point is seized, as before, and drawn through until the middle of the wire is at the center of the wound; other wires, to the requisite number, are to be passed in the same manner, and at distances of about one-third of an inch apart.

"All the sutures having been inserted, the next step in the operation is, to bring the edges of the wound together, and fasten them in apposition by some contrivance. Dr. Sims makes use of the quilled, or what he calls the "clamp suture," which consists in taking two polished cylinders of lead or silver, an eighth of an inch in diameter, made so smooth as not to irritate the parts with which they lie in contact, and fixing them on each side of the rent by means of the wires and perforated shots. The quills or cylinders should be as long as the laceration, and have as many perforations as there are wires; the perforations being at distances corresponding with the points at which the wires enter or pass from the surface of the vagina. The distal ends of the wires are passed, each, through its corresponding perforation in the cylinder, and fastened by a couple of turns around it. The extremities of the wires not used in the fastening, may now be clipped off with scissors; after which, traction is to be made upon the other ends of the wires in order to bring the cylinder into its place against the tissues on that side of the wound. The other cylinder is now to be slid upon the wires of the side to which it belongs, in a similar manner, and snugly fastened against the

tissues by passing the wires through perforated shot, each shot being carried down to the cylinder, and then compressed with a pair of forceps upon the wire. (*See Fig.* 17.)

Fig. 17.



Section of Vagina showing the mode of applying the cylinders, shot, &c.

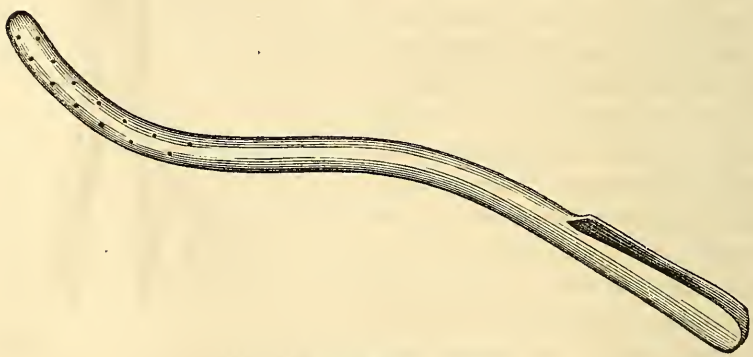
"The shot answer for knots, and are more easy of application than any tying process. As each shot is carried to the cylinder, traction must be made upon the wire with the left hand, that the two forces may approximate the edges of the rent before the shot is flattened. Each shot must be thoroughly pinched with forceps, or it will slide on the smooth wire, and allow the wound to gape, and the urine to trickle through the rent. The forceps used in compressing the shot may be the common straight ones employed in extracting incisor teeth. The ends of the wires having been cut away near the flattened shot, the finger should be passed over the wound to ascertain that every thing is right. If the extremities of the wires stick out, they should be bent down, and all asperities be removed to prevent irritation of the opposite wall of the vagina.*

"The self-retaining catheter of Dr. Sims, *Fig.* 18, is to be introduced through the urethra into the bladder, and the operation is completed. The catheter must be worn during the healing process, which may be done without distress or uneasiness. It may be removed every two or three days to see that its inner extremity does not become blocked up with mu-

* "Brown, Jobert, and others, recommend, after the sutures have been made fast, to make free incisions through the vaginal mucous membrane, as well as through some of the muscular fibers of the bladder, distant about four or six lines on each side of the closed wound, so as to relieve any traction upon the opposed surfaces."

cous or urinary concretions. Sims's catheter is about two and a half inches in length, being curved twice. The inner extremity, for the distance of half an inch or more, is finely perforated, and turns upward to prevent it from slipping out of the bladder. The outer extremity is curved downward, and rests against the lower part of the meatus urinarius, preventing the instrument from slipping into the bladder. The catheter conveys the urine from the bladder as it reaches this organ; no urine should pass through the fistula. Complete success need not be expected if even a few drops of urine find their way between the sutures.

Fig. 18.



Sims's Self-retaining Catheter.

"Napkins are to be placed next to the vulva and perineum to absorb the urine as it escapes from the catheter; or, a piece of india-rubber tubing may be fastened over its outer extremity, through which the urine may be conducted to a proper receptacle. The external genitals and neighboring parts should be sponged every day with tepid water, for the cleanliness and comfort of the female.

"The sutures must not be removed for eight or ten days. During which time the bowels should be kept in a constipated condition by repeated doses of Opium. Any effort at an alvine evacuation might destroy the delicate adhesion just taking place in the wound, as well as tear out the ligatures. No danger need be apprehended from a locked up condition of the bowels for two or three weeks, should this time be required.

During the healing process, the patient should be kept on a light diet, as water, tea, coffee, crackers, hard biscuit, &c., and she must not be allowed to leave the recumbent position, nor to make any efforts while turning in bed to relieve her position.

"On the second day after the operation, a common grooved director may be passed into the vagina, in such a way as to catch any urine that may be escaping through the wound. If none be observed, no great solicitude need be entertained for the result of the case. But if drops of urine find their way through the wound, complete union cannot be expected; yet the suture apparatus must be undisturbed until the eighth or tenth day, in which time it will have accomplished all that it can, and the wires and bars may be removed. This may be effected by means of a stout pair of scissors, clipping the wires between the shot and nearest clamp, and carefully disengaging the cylinder, which may have become embedded in the tissues. The other clamp, with the wires attached, may then be removed. The disengagement of the clamps or cylinders, after the shots have been cut away, can generally be accomplished best with a blunt hook and forceps. If any opening still exist, the catheter should be left in the bladder, and the ununited portion be cauterized, and left to heal, which it may do. But if a small opening persistently remain, it must be treated in the same manner as the original fistula had been previously.

"The patient should be kept quiet for several days after the removal of the sutures, and not be allowed to strain at stool, nor voluntarily evacuate the bladder. At the end of three weeks no further attention on the part of the surgeon will be required, and no danger of rupturing the cicatrix need be apprehended.

"Instead of using clamps or cylindrical bars, as recommended by Dr. Sims, many surgeons prefer to use an oval disk of silver, which has as many perforations along the middle of its long diameter as there are sutures employed. The steps in the operation are precisely the same, (except that the sutures should be passed nearer the edges of the rent,) until the clamps are to be applied, when the ends of the wires on both sides of the wound are brought together, and passed through

the perforations in the disk. Upon the two ends of each wire brought together, a perforated shot is applied, and carried down to the plate with pressure, at the same time making proper traction on the suture, so as to bring the edges of the wound in contact; the shot is then flattened as in the plan already described. This method of closing fistulous openings in cavities was suggested by Dr. Bozeman, of Alabama; and, although it has been scoffed at as a useless contrivance, and as an attempt to appropriate a part of Dr. Sims's invention, I prefer it in most cases for the following reasons:—It is less complicated, consequently more easily and rapidly applied; and it holds the edges of the wound more evenly and steadily in apposition; beside which, it does not so readily become imbedded in the tissues.

Fig. 19.

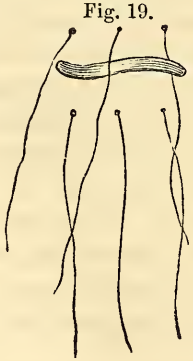


Fig. 20.

Fig. 21.

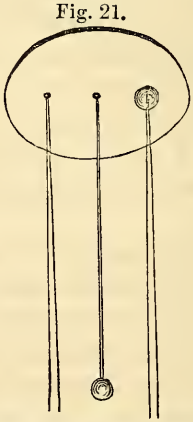


Fig. 19.—Fistulous aperture, with the sutures passed on each side of it.

Fig. 20.—Silver disk, with central perforation.

Fig. 21.—Silver disk, with both ends of each wire suture brought through the perforations. On one suture a perforated shot has been carried down to the disk; on the central suture, a shot is about being slid down to the disk.

"When the clamps are used as already described, a ridge of the two flaps of the rent is raised between the cylindrical bars, which interferes with the healing process, or, from the parts being too tightly constricted, sloughs are apt to form. This is

not the case when the oval disk is used. In the treatment of some cases, in which there was considerable irregularity in the lips or edges of the wound, I have met with success by twisting the two ends of the wires together to approximate the borders of the rent, without using either the clamps or the disk, making thereby a common interrupted suture; and from the good results following, such a use of the wires will probably be found preferable in the majority of instances.

"For particular cases, as where the neck of the uterus is involved in the laceration, the surgeon must vary the operation to suit the peculiarities of the case. General principles, however, may be deduced from the plans above described."

RECTO-VAGINAL FISTULA.

This accident consists in an aperture or communication between the rectum and vagina, in consequence of which the feces or intestinal gas escapes through the vagina; it is not so frequently met with as vesico-vaginal fistula, and may exist separately, or combined with it.

Causes. Recto-vaginal Fistula may be occasioned by the same causes which produce the vesico-vaginal form; it may, likewise, be due to a stricture of the rectum, and to a recto-vaginal abscess.

Symptoms. The feces are expelled through the vagina, giving rise, in many instances, to inflammation and excoriation of that organ, and producing all the discomfort and repulsiveness met with in vesico-vaginal fistula.

Recto-vaginal fistulas are more commonly caused by lacerations produced during parturition, either by long continued pressure of the fetal head, its forcible and rapid expulsion, or the inexpert management of instruments. The rent may occupy any part of the recto-vaginal partition, and will most generally be in a transverse or antero-posterior direction; sometimes, as when following a slough or abscess, it may be more or less circular.

Treatment. There is a greater tendency to a spontaneous cure in recto-vaginal than in vesico-vaginal fistulas; and this is accomplished more effectually, in recent cases, when aided

by a constant state of quiet, resting on one side, anodyne and mucilaginous washes and injections, low diet, and strict cleanliness of the parts.

When the fistula is due to a recto-vaginal abscess, it may frequently be cured by the application of caustic. Place the patient in the same position as named for Rupture of the Perineum, on page 62, and having, if necessary, introduced a speculum, lightly touch the edges of the aperture with the caustic—whether this be Nitrate of Silver, or the actual cautery; then, at once, plug the vagina with dry lint, place the patient in bed, and pass an elastic catheter into the bladder, with an india-rubber bag attached to its external end, into which the urine may flow, and thus be prevented from coming in contact with the vaginal walls. Constipation should be induced by Opium, and maintained for a sufficient length of time, the same as in the treatment of lacerated perineum. It may sometimes be necessary to repeat the cauterization two or more times, allowing five or six days to intervene between each operation, or, until the slough comes away. Sometimes a cure may be effected by dividing the rectum from the fistula to the anus, and producing granulation by the proper dressings.

If a stricture of the rectum has occasioned recto-vaginal ulceration, the fistula may often be cured by dividing the stricture; in some cases, the use of caustic, or the division of the rectum, as named above, will be subsequently required.

Recto-vaginal fistula occurring at the time of labor, may frequently be cured by placing the patient on her side with the knees well flexed upon the abdomen, the thighs being held together, and a perineal bandage applied; constipation must be induced by Opium. A very small aperture, the result of sloughing, may be closed, by an application of the actual cautery. It is generally the better plan to apply the cautery per vaginam, though sometimes it will be required both per vaginam and per rectum. Brown recommends in some cases of minute opening, to pass two or more pieces of twine through the rent, having one of their ends passing out of the vagina, the other out of the rectum; these should be moved daily, by which means a healthy granulating surface is produced, when, upon removing the twine, the part readily heals.

When the fistulous orifice is large, and when the means recommended above fail to effect a cure, it will become necessary to perform an operation, similar to that described for vesico-vaginal fistula. After the operation, the patient must be kept upon one side constantly, constipation must be maintained, and the diet should be dry and generous. In this operation, should there be any traction exerted upon the opposed surfaces by the sphincter ani, it may be obviated by dividing this muscle on both sides, the same as in the operation for rupture of the perineum, page 64. Cold water dressings are usually the best, during the after treatment.

When the infirmity is the result of some malignant disease, an operation is out of the question; palliative measures are all that can be employed to afford relief.

DISEASES OF THE UTERUS.

CONGESTION OF THE UTERUS.

This condition of the uterus, also called Engorgement, or Hyperæmia of the Uterus, is most commonly met with at the commencement of menstruation, as well as immediately previous to and following each catamenial period, at which times there is a greater determination of blood to the uterus, occasioning a congestion of this organ, which, however, under ordinary circumstances is merely temporary, being speedily relieved by the appearance of the menstrual discharge. Congestion of the uterus is also generally observed when menstruation is about to cease, at the "turn of life," as manifested by the sensations of fulness, heaviness, &c., experienced in the region of this organ, as well as, in many instances, by the profuse hemorrhages which are often a source of much trouble and anxiety to the patient. And, there can be no doubt, that organic uterine affections commonly progress so rapidly and become so much aggravated after the "turn of life," as we find to be the case, simply because of the want of that relief which had been previously given to the congested organ by the repeated monthly sanguineous discharges.

Uterine congestion occurring at the catamenial terms is a healthy condition, demanding no medical interference; but when it occurs at other times, or continues too long after menstruation, it becomes abnormal, and will require treatment. Congestion may also be present during acute or chronic inflammation of the uterus, and it often appears in connection with other morbid uterine affections, all of which maladies are aggravated thereby, and rendered more difficult of cure.

Causes. Abnormal congestion of the uterus may be occasioned by any thing which produces excitement or irritation of this organ, as exposures to cold, improper use of astringents, excessive coitus, inordinate sexual excitement, sudden or powerful mental emotions, over-exercise, great fatigue while in an erect position, too much riding on horseback, frequent abortions, the use of agents to force the menstrual flow, or to cause abortion, as Ergot, Savin, Oil of Turpentine, &c. A predisposition to congestion of the uterus may also be occasioned by polypus, or other organic uterine affections. An engorged or hypertrophied condition of the uterus frequently accompanies sterility, arising from the frequent excitements of the organ, and the oft-repeated but incompletely performed attempts to beget offspring.

Symptoms. Engorgement of the uterus may be confined to the cervix uteri, or it may occupy the entire organ. The ordinary symptoms are a sense of weight or heaviness, and fulness in the pelvic region, a more or less severe, deep seated pain in the hypogastrium, which may be constant, or be experienced periodically, and which, from its character, has been termed "uterine cramp, colic, or tenesmus." Pressure does not increase the pain; an uneasy feeling is generally complained of at the anus, and in the neighborhood of the neck of the bladder. It is not an unfrequent occurrence for coitus, or active exercise, to be succeeded by more or less hemorrhage.

The constitution is not always affected in this malady, but when it is, the symptoms will be found to vary considerably. There may be headache, nausea, depression of spirits, febrile symptoms, chills, enlargement of the breasts with pain or soreness on pressure, and hysteria. Sometimes, menstruation will occur over-frequently.

If an examination per vaginam be made, the uterus will generally be found low down, increased in size, or distended with blood, and having a spongy or doughy feel. The os uteri will be more dilated than usual, so that the finger may frequently be passed into it; the lips swollen; the heat of the parts slightly, if at all, increased; and no tenderness on pressure. If a speculum be employed, the cervix will be seen swollen, smooth, shining, and of a more or less deep red color, or purplish, according to the degree and duration of the congestion; sometimes, the surface of the os will present a spotted appearance; and in some cases, slight sanguineous exudations may be seen on the cervix.

Discrimination. Congestion of the uterus may be determined from *inflammation of this organ*, by the swelling of the cervix in the latter affection being less voluminous, the part presenting a deeper tint of red, and attended with great heat, and more or less tenderness; motion or pressure increases the pains in the hypogastrium and pelvis; and the constitutional symptoms are more marked.

It may be determined from *softening* or *ramollissement of the uterus*, in which the uterine tissue instead of being elastic and spongy, is soft, yielding to the pressure of the finger, like the skin of a rotten apple; from *scirrhus induration*, which is harder, and most commonly attended with lancinating pains, and the mucous membrane of the cervix is of a dull white color,—though the diagnosis between the engorgement and scirrhous condition is frequently difficult, and, until at an advanced period, even impossible.

Treatment. The patient should be kept in the horizontal position, in a state of mental and physical quietude; the bowels should be kept regular, but no purgatives be administered, and the kidneys should also be moderately acted upon by cooling diuretics. Especial attention should be paid to the surface of the body, bathing it frequently with alkaline solutions, to which, in cases of debility, some stimulant may be added, as Alcohol, &c., and friction should be used in drying, so as to produce a gentle glow of heat; diaphoresis should also be produced by the Hot Air bath, or, by the internal use of the Compound Tincture of Virginia Snake root, repeating this once or

twice every week. If necessary, sedatives may be administered internally, as Tincture of Digitalis, Tincture of Lobelia, Tincture of Gelseminum, &c.; but, in cases where a long-continued treatment is required, it will be better to alternate their use with that of non-stimulating tonics, especially those which act more directly on the reproductive organs. The tepid or cold sitz bath, for twenty or thirty minutes at a time, and injections or douches to the uterus of cold water, infusion of Arnica, of John's-wort, of Lobelia, or of Hops and Stramonium, will always prove useful. Tincture of Arnica, administered internally, has been found a very valuable remedy in this affection. In most cases counter-irritation to the lumbo-sacral region will be of benefit, as dry-cupping, Croton Oil Liniment, Firing, Mustard, &c. The diet should be light and cooling, but nutritious; and coitus must be abstained from. When engorgement is connected with excoriations, ulcerations, or other abnormal conditions, these must be treated as advised under their respective heads.

In irritable and congested uterus, accompanied with nausea, vomiting, tympanitic abdomen, headache, and powerful pulsations of the abdominal aorta, a strong decoction of Indian Hemp, *Apocynum Cannabinum*, has been found exceedingly valuable in teaspoonful doses repeated every one, two, or four hours. In some cases it may be advantageously combined with an equal quantity of pleurisy root, *Asclepias Tuberosa*.

ACUTE INFLAMMATION OF THE UTERUS.

Acute Inflammation of the unimpregnated Uterus, or Acute Metritis, is occasionally met with; the inflammation may be confined to the internal mucous lining of the organ, to its serous coat, or to its proper tissue; or, the three may be simultaneously affected. Acute inflammation of this organ at the puerperal period, is treated upon in "King's Obstetrics," page 579.

Causes. The unimpregnated womb may be attacked with inflammation as a consequence of exposure to cold, menstrual suppression, excessive coitus, and, indeed, the same causes that induce congestion of the organ.

Symptoms. The attack may be very slight and of short duration, or it may be manifested suddenly and with much severity. A deep seated pain, of more or less intensity, will be experienced in the pelvis or hypogastrium, with occasional or constant pains in the back, extending to the thighs, groins and pubic bones; the pain is aggravated on deep pressure being made over the affected organ, and also by urinating, defecating, sneezing, or coughing. The pulse is quick, sometimes full, or hard, at others weak and compressible.

The general symptoms vary considerably; it is generally ushered in with rigors, succeeded by febrile symptoms; there will be heat and dryness of the skin; constipation; irritable stomach; dry and furred tongue; headache; slight delirum; &c. Anteversion of the uterus, or retroversion, sometimes takes place; or the breasts may become painful and enlarged; and frequently the patient will faint when sitting up. Menstruation is usually suspended, but not in all cases.

On a vaginal examination the cervix will be found swollen, tender, and more open than natural, with more or less heat. Ocular inspection will frequently discover small, whitish, hard or soft granulations upon the cervix, with redness and vascularity of the surrounding parts, pain, discharge, and a tendency to bleed upon the least touch, and to which condition the term "granular inflammation" has been applied. The disease seldom proves fatal, unless the inflammation extends to the peritoneum and intestines. It, more commonly, passes into the chronic stage, occasioning various annoying and even serious consequences. Among its terminations may be named, abscess, induration, ramollissement, and gangrene of the uterus; though it frequently terminates in resolution.

Discrimination. Care must be taken not to confound the disease with *inflammation of the bladder* or *rectum*, because of the pain in these parts and the difficulty experienced in evacuating their contents; and this mistake may be avoided by making a vaginal examination.

It may be determined from *scirrhus*, by the greater heat and tenderness of the parts, and the slight enlargement of the uterus, as well as want of hardness. In scirrhus there is less heat, less tenderness, greater swelling, and greater hardness.

It may be determined from *cancer*, by the abscence of ulceration, and of the acrid, fetid discharge, both of which are present in cancer.

Post-mortem appearances. The uterine tissue will be swollen, soft, friable, of a dark-red color, and filled with blood, and a sero-purulent matter; small abscesses will sometimes be discovered, containing pus, which fluid may also be found in the veins of the uterus. In some instances, there will be softening of the substance of the organ, which will tear on the slightest pressure; and, occasionally, more or less gangrene may be present.

Treatment. The treatment will be similar to that for inflammatory states of other internal organs. The bowels must be kept regular by laxative enema; and, in some cases, laxatives may be administered by mouth. To lessen inflammatory action, sedatives may be exhibited, as Tincture of Gelseminum, Tincture of Aconite, Tincture of Digitalis, Tincture of Stramonium, &c.; these may be used separately, or in various combinations. When it is desirable to lessen nervous irritability, relieve pain, produce diaphoresis, and promote sleep, the Compound Powder of Ipecacuanha and Opium, or the Compound Tincture of Virginia Snake root, may be given. An infusion of Peach leaves two parts, Elm bark one part, may be used freely as a drink; this may likewise be injected into the vagina several times a day, to relieve the heat and tenderness of the parts. Fomentations of Stramonium leaves, or of Lobelia and Stramonium, may be advantageously applied over the abdomen; and warm hip baths may be used, when the condition of the patient will permit. In very severe attacks, with great pain, counter irritation to the lumbo-sacral region will be found useful, as sinapisms, cupping with or without scarification, &c.; as well as mustard to the feet and legs.

In the "granular inflammation" referred to, the parts may be carefully and thoroughly pencilled, by a solution of Nitrate of Silver, from ten to forty grains to the fluidounce of water, commencing with the weaker solution, applying it daily, with a gradual increase in its strength, until all the local symptoms are removed.

The patient must be kept in the horizontal posture, the bed

being neither too soft nor too hard; the diet must be light; coitus must positively be abstained from; and the room be kept comfortably cool, and well ventilated. In cases of intestinal irritability with diarrhea, a fluidrachm of the Compound Tincture of Virginia Snake root added to half a fluidounce of Elm infusion, or Starch water, may be injected into the rectum, as often as required,—the patient retaining it as long as possible.

After the attack has subsided, it will be well to observe that the inflammation does not return at the following menstrual term, in consequence of the congested condition of the uterus which occurs at this time; this may generally be avoided by keeping the bowels free, and administering for two or three months, three pills a day, composed as follows: Take of Camphor one scruple and a half, Sulphate of Quinia two scruples, Extract of Belladonna one scruple, Aletridin a sufficient quantity to form the whole into a pill mass; mix, and divide into eighty pills.

CHRONIC INFLAMMATION OF THE UTERUS.

Chronic Inflammation of the Uterus, or Chronic Metritis, may be the result of an acute attack, or it may exist, more commonly, as the primitive affection, developing itself very gradually. The inflammation is generally confined to the cervix and its lining membrane, though the whole organ, or any part of it, may be affected.

Causes. Chronic inflammation of the uterus may be occasioned by anything which will maintain a constant excitement or irritation of the organ, as, exposures to sudden changes of temperature, severe labor, excessive coitus, masturbation, stimulating diet, erotic desires, frequent child-bearing, menstrual derangements, abortions, blows externally, improper use of cathartics, pessaries, vaginal injections, or emmenagogues, dwelling in damp situations, constriction of the abdomen by tight dresses, metastasis of rheumatic affections, prolonged celibacy, alcoholic drinks, &c.; it frequently comes on without any assignable cause, and sometimes follows as a consequence of some febrile disease or inflammation of neighboring organs.

Symptoms. The symptoms of this disease vary very much, more especially those of a sympathetic character. In some cases, the only symptoms will be a mental depression, with slight and irregular leucorrheal attacks. In others there will be more or less disturbance of the menstrual function, some difficulty or distress in evacuating the rectum and bladder, with slight pains in the region of the uterus; a sense of weight and dragging in the pelvis, heat, leucorrheal discharge, tenderness of the cervix, weakness of the back, &c. The sympathetic symptoms are pain in the head, derangement of the stomach and digestive functions, palpitation of the heart, pains of the breast; sense of oppression, formication in the legs, cramps, hysterical attacks, nervous disorders, restlessness, &c. And these symptoms may be met with in every degree, from a bare perception of them, to severe suffering and distress.

Upon making a vaginal examination, more or less heat of the cervix may be present, or it may be of natural temperature, the body of the uterus, as well as the cervix, may be augmented in the volume from congestion, or they may be of normal size; when the cervix is affected there is pain or tenderness of some portion of it on pressure, and the os uteri is usually softer and more open than natural. When the body of the uterus is enlarged, its increased weight may be ascertained by elevating and poising it on the finger. When the cervix is observed through the speculum, its redness is increased, and many of its blood-vessels may, in some cases, be distinctly seen. Chronic inflammation of the uterus may terminate in resolution, or it may continue, giving rise to leucorrhea, ulceration, induration, softening, abscess, or gangrene, especially of the cervix. The malignant affections of this organ, are often preceded for a longer or shorter time, by a chronic inflammatory condition of some portion of it; but, it is doubtful whether this condition is, in reality, the cause of the subsequent mischief, except it be improperly treated, or of long continuance. Obstinate chronic uterine inflammation in a scrofulous female, or in one whose relatives have suffered from a cancerous disease of the part, must be watched with great care and anxiety.

Treatment. The first indication in the treatment of Chronic Metritis is to remove the inflammation present; to effect this, several measures are necessary. The surface of the body should be frequently bathed with a weak alkaline solution, using sufficient friction in drying to produce a pleasant glow of warmth; the hot air bath should be also employed once in every week or two, according to the strength of the patient. For a few days previous to and following menstruation, this bath should be dispensed with, except in cases of checked or painful menstruation. The bowels should be kept regular by cooling laxatives, and injections may be thrown into the vagina two or three times a day, composed of an infusion of two parts of Peach leaves and one part of Elm bark. Tepid or cool hip baths will likewise be found very serviceable, avoiding their use, however, about the menstrual period. Leeches to the cervix have been highly recommended, about four being applied at one time, and repeating the leeching in every ten or twelve days; in severe and obstinate cases they may be tried, as they afford prompt relief, but I have seldom found them necessary.

Among the internal means, I prefer Belladonna, Aconite, or Black Cohosh. The tincture of Black Cohosh may be given in doses of from ten to sixty drops, three or four times a day, adding from five to ten drops of the tincture of Belladonna to each dose; or, when much pain is present, from three to six drops of the Tincture of Aconite may be substituted for the Belladonna. In some cases, the Black Cohosh will produce unpleasant symptoms, owing, perhaps, to idiosyncrasy; its use must then be omitted, and the other agents be exhibited alone. I do not find the Gelseminum so useful in chronic inflammations as in acute. Any irritability of the bladder may be relieved by an infusion of equal parts of Marsh-mallow, Trailing Arbutus, and Peach leaves; which may be drank freely. Or, Cleavers, Haircap-moss, Fluid Extract of Hydrangea, &c., may be used.

Counter-irritation to the lumbo-sacral region, will be found very useful as an auxiliary measure in subduing the inflammatory condition of the uterus and relieving the pain in the back; dry Cupping, Firing, Mustard, or the Croton Oil Liniment

may be applied; being careful not to cause pustulation, which, as a general rule, will prove unnecessary. Pains in the iliac region may be removed by a sinapism; or by a liniment composed of Extract of Belladonna half a fluidrachm, Tincture of Aconite four fluidrachms, Opodeldoc an ounce and a half; mix. (*Oldham.*)

The patient must be kept quiet, not too much in a recumbent position, however, using a light, non-stimulating, but nutritious diet; all mental or physical excitement must be avoided as much as possible, and sexual intercourse be prohibited.

After the reduction of the inflammation, and in those cases where this is of a low or moderate character, alteratives will be found useful, as tending to prevent any subsequent hypertrophy or organic lesion. The Iodine pill, Compound Tincture of Iodine, or Compound Syrup of Stillingia with Iodide of Potassium, will be found very useful in patients of strumous diathesis, or who are affected with a syphilitic taint. In some cases, two fluidrachms of the Tincture of Iodine, added to fourteen fluidrachms of the Tincture of Black Cohosh, and administered in doses of twelve drops in a tablespoonful of water, repeating the dose three times a day, will be found of much benefit.

In many instances the chronic inflammation will accompany an enfeebled condition of the reproductive organs, or this may exist after the subsidence of the inflammatory symptoms. Usually, there will be more or less constitutional debility, languor, indisposition to exercise, &c., in connection with this state; uterine tonics will, in these cases, be found especially valuable, as, the Compound Syrup of Partridgeberry, Compound Pills of Motherwort, Compound Pills of High-Cranberry, &c. Anemic patients will require some chalybeate restoratives, or, some preparation of Manganese.

If a tendency to menorrhagia should remain after the disappearance of other symptoms, this may be overcome by drinking freely of infusion of Blackberry root, Beth root, &c.; or, a scruple, each, of Alum and Sulphate of Iron may be dissolved in four fluidounces of water, of which, half a fluidounce or a fluidounce may be given for a dose, repeating it three or four

times daily. The cure in all these chronic uterine affections is, unfortunately, slow, requiring perseverance and patience on the part of the patient as well as of the practitioner.

Those conditions accompanying or following Chronic Metritis, as leucorrhea, ulceration, &c., which require a separate notice, will be treated upon in the following pages.

UTERINE LEUCORRHEA.

Leucorrhea, also known by the terms "fluor-albus," and "whites," is an unhealthy discharge from the vagina, (*see Chronic Vaginitis, page* 103,) the uterus, or both combined. It is a disease very common to females, occurring more especially during the interval between puberty and "the turn of life," few females escaping one or more attacks of it.

Causes. Uterine leucorrhea is owing to an irritated, or chronic inflammatory condition of the membrane lining the os uteri, the canal of the cervix, and the cavity of the body of the uterus; principally, however, the two first named.

In connection with these conditions there is, likewise, in most cases a morbid condition of the glandular follicles of the cervical canal, causing them to be constantly secreting a more or less profuse discharge. The discharge in leucorrhea usually takes place from the follicular structure of the cervix; rarely from the cavity of the fundus.

The causes which may give rise to the changes necessary to develop uterine leucorrhea, are various; among which are those already alluded to under chronic inflammation of the uterus, together with eruptive disorders of the os and cervix, gonorrhea, secondary syphilis, prolonged lactation, irritations of the rectum, &c. Females of enfeebled constitutions, of strumous diathesis, of indolent habits with high living, or, whose systems are relaxed by exposure to artificial heat or warm climates, are more especially liable to this malady. And it is a common attendant upon most of the morbid growths peculiar to the uterus, as cancer, polypus, &c.

Symptoms. There is an incessant discharge, usually bland, more or less profuse, of a ropy consistence, transparent or

semi-transparent, and communicating no stain, but merely a starch-like stiffness to linen upon which it has dried. It has an alkaline reagency, but when it descends into the vagina, and is acted upon by the acid discharge of this canal, it becomes coagulated and opaque, and loses its viscidity, resembling very closely the vaginal discharge. When ulceration is present, the discharge will be muco-purulent, and of a greenish or brownish tinge; and sometimes it will be more or less bloody. Occasionally, the blood discharged from the cervix may be so constant and profuse, as to be mistaken for menorrhagia. In connection with this discharge will exist a variety of local and constitutional symptoms, from those of a mild character to those of great severity. Paleness or sallowness of complexion, occasional or constant weakness in the back and loins, with more or less pain, heaviness, with bearing down or dragging sensations, menstrual derangements, as dysmenorrhea, amenorrhea, menorrhagia, &c., are usually complained of. In some more active cases there may be considerable heat and itching of the parts; and the discharge may be acrid, excoriating the external parts with which it comes in contact. The bladder may become irritable, giving rise to difficult urination, or retention of urine, scalding, &c. Coitus is frequently very painful.

Debility, fatigue on the least exertion, indisposition to exercise, torpid liver, deranged appetite, acid stomach, disagreeable eructations, constipation, more or less severe headache, eruptions on the forehead and face, hollowness of the eyes, swelling of the eyelids with a dark appearance encircling them, flabbiness of the breasts, palpitation of the heart, colicky pains, coldness of the extremities, flashes of heat, vertigo, faintness, hysteria, indifference to surrounding objects, &c., are among the more common general symptoms. When there is an accompanying relaxation of the vaginal walls, prolapsus of the uterus will be present, rendering the disease more difficult of cure. Sometimes the tongue will be pale, flabby, and showing the indentations of the teeth upon its edges, especially when amenorrhea is present. Sterility is frequently due to leucorrhea, especially when amenorrhea or dysmenorrhea is present, with a debilitated, anemic condition of the system; and this is

almost invariably the case, when the dysmenorrhea is attended with membranous exudations. When the vaginal discharge is excessively acid, or that from the cervical canal strongly alkaline or purulent, a destructive influence may thereby be exerted upon the spermatozoa of the male semen, preventing conception. A thick, tenacious plug of mucus occupying the os uteri may induce sterility by preventing the ascent of the spermatozoa into the uterus; and a debilitated or unhealthy condition of the uterus and Fallopian tubes, occasioned by the leucorrhea, may interfere with the advance of the spermatozoa, as well as with the passage of the female ovules through the tubes, and their detention in the uterus.

When the cervix is very irritable, or ulcerated, so that the lower portion of the uterus is kept in a constant state of irritation while the female is pregnant, abortions are very frequent; and these are most certain to occur when the leucorrhea is due to secondary syphilis derived from the male, or existing as a result of the primary disease in the female.

Anemia is common where there are frequent and profuse discharges of blood; and where the pus secreted is absorbed, hectic fever ensues.

Upon making a vaginal examination, the cervix may be felt of natural size, or somewhat enlarged; some tenderness may be experienced on pressure, and the os uteri be somewhat more open than natural; or, the finger may be unable to detect any abnormal condition of the parts. Sometimes the shape of the os uteri will be changed, presenting a flat instead of a rounded surface, with a projection of the anterior lip, its edge being thin. If a speculum be introduced the mucous membrane of the cervix may be seen of any intermediate shade between a pale, slightly rose color, to a deep red; occasionally, it will present a spotted appearance. When there is vascular injection of the os and cervix, or rather of the papillæ beneath the epithelium, a ring of vivid redness will encircle the os tincæ; it may be narrow and confined to the margin of the os, or it may be broad and involve the whole or the greater part of the surface of the os, or it may be limited to one of the lips. There is a rapid shedding of epithelium connected with this condition, and a portion of tenacious, alkaline mucus may be seen

protruding through the uterine mouth. The vascular condition is probably owing to the alkaline cervical discharge constantly irritating the acid surface of the margin of the os uteri.

In uterine leucorrhea, termed by W. Tyler Smith, "cervical or mucous leucorrhea," the elements observed by him in the discharge, when subjected to a microscopical examination, were, "a *viscid alkaline plasma*, elaborated by the glands of the canal of the cervix uteri; *mucous corpuscles; altered cylinder epithelium*, or caudate corpuscles from the follicular surface of the cervical canal; *pus-corpuscles*, when ulceration is present; *blood-globules;* and *fatty particles.*" The cervical discharge is sometimes met with very copious and watery, with scarcely any viscidity, occasioning great debility, beside being a source of much annoyance.

"In the healthy, unimpregnated uterus, the canal of the cervix uteri is occupied with the secretion peculiar to it, and which is scarcely to be seen until the lips of the os uteri are separated. This secretion forms a tenacious, mucous plug, filling up the canal, and which passes away at each menstrual period, re-forming, however, in a few days following the catamenial flow, and becoming thicker and more viscid as the month advances. This mucous plug is, however, not invariably present; many uteri will be found in which it will be wanting. The function of the cervix in this respect appears to be periodical. The mucus protects the cavity of the uterus from external agencies, and affords a medium through which the spermatozoa are transmitted to the uterine cavity; it has an alkaline reaction. During pregnancy, the mucus plug usually continues unremoved, adapting itself to the various changes undergone by the cervix; it is firmer than the mucus met with in the unimpregnated condition, and is clear and transparent, except at its lowest part, where it becomes white and opaque from the action of the vaginal acid upon it, which coagulates its albuminous matter. It keeps the os and cervix uteri sealed during pregnancy; and the presence of this plug, with its lower portion being white and opaque, is of some importance as a sign of utero-gestation, particularly in the early months. During parturition this plug of cervical mucus is discharged with blood-globules and a fresh secretion of a more fluid mucus, and

is known as "the show," and a mucous discharge continues to lubricate the vagina until parturition is accomplished and the lochia has ceased, and, sometimes, to a moderate extent, during the period of lactation. Females with profuse leucorrhea during lactation, enfeebling their systems, will have the discharge diminished or arrested, by weaning the child. Dryness of the vagina during labor, is owing to an arrest of this cervical secretion." (*See Vaginal Leucorrhea*, page 103.)

Uterine or cervical leucorrhea may exist with simply an irritated or inflamed condition of the cervix, or it may be a cause of, or accompany various morbid states of the os and cervix, as, abrasion, ulceration, inversion of the cervical canal, induration and hypertrophy, which are generally treated of as separate affections.

When the surface of the os and cervix uteri is *abraded*, there is a loss of the epithelium, and a denudation of the papillæ, which are frequently enlarged. It may encircle the os tincæ, forming a narrow ring, or it may occupy the entire surface of the cervix, and even descend into the upper part of the vagina; it is not uncommon for it to pass within the canal of the cervix. To the touch the erosion has an erectile, velvety feel, with a degree of roughness when the papillæ are considerably enlarged. From the tenderness of the parts, the least touch will frequently occasion slight bleeding, and when this is the case, the blood can be seen on the finger after withdrawing it from the vagina. Sometimes the parts will feel quite healthy, although there may be an extensive erosion. A specular examination will detect a red circle of erosion around the os uteri, as if the mucous covering had been peeled off, having a rough appearance, with the margins irregular and slightly elevated, and the surface presenting a finely granulated aspect, occasioned by the denudation of the papillæ; from the abraded surface, mucous plasma and epithelial scales are discharged, but seldom any pus. Sometimes the abrasion will appear as small points, or aphthous ulcerations, the intervening surface being of a deep red color, or natural, until, if permitted to continue, the abraded points enlarge and coalesce. A congested state of the cervix most usually accompanies the abrasion, and the os uteri will generally be more open than natural. There

may be no tenderness of the part, but frequently it will be sensitive to the least touch, and sexual intercourse will occasion great pain and soreness, being frequently followed by a slight discharge of blood. This erosion is probably due to the irritating action of the highly acid secretion of the vagina, or, of the alkalinity of the cervical discharges.

In *simple ulceration* of the os and cervix uteri, there is a loss of the epithelium covering the cervix, as well as a disorganization, to a greater or less extent, of the subjacent papillæ. This ulceration may be limited, exist in patches, or occupy the entire external surface of the cervix, passing within the lips of the os uteri. On lightly passing the finger over them, a slight depression will be felt, of greater or less extent, the borders of which will be regular or irregular, and well defined; sometimes the parts will be very tender, and bleed upon being touched. Upon removing the finger an inodorous, whitish, or yellowish substance will be observed upon it, occasionally tinged with blood. The irregularly bordered ulcer is stated to be indicative of a syphilitic taint, but I have frequently observed a regularly defined margin in cases connected with this infection. When the ulceration is very superficial the finger may not detect it. The employment of the speculum will discover one large ulcerated surface, or many smaller ones of various sizes, with well-defined edges, and reddish, granular surface, the smaller ulcerations coalescing and forming larger ones, giving to the surface of the os an eaten, corroded appearance. The os is generally open more than natural.

In ulceration, as in abrasion of the cervix, the parts may in some cases be exquisitely tender, while in others there will be but very slight increase of sensibility, or, perhaps, none at all. Erosion and ulceration are very common in strumous individuals laboring under leucorrhea; there is a muco-purulent discharge, which has no odor, unless it has been detained for some time in the vagina, when it has a smell like that of sulphuretted hydrogen. Cleanliness of the parts will remove this fetor.

An open condition of the os, the cervix being swollen and spongy, with heat, tenderness, and some discharge of blood, frequently follow irritations produced and continued by the use of pessaries, means to prevent conception, &c.

Inversion of the lower portion of the cervical canal sometimes occurs as a consequence of persistent irritation. Its feather-shaped rugæ or folds are exposed to view by the eversion, and the lower part of the cervical canal is sometimes in contact with the vaginal walls, the leucorrheal discharge being increased, and the pain and distress augmented considerably. The rugæ are of a deeper red than the surface of the os uteri, enlarged, and deprived of epithelium, presenting an appearance which may be readily mistaken for a "cockscomb granulation," or "ulceration."

Induration and hypertrophy of the os and cervix uteri, is accompanied with an enlargement of the entire cervix, or of one of its lips; the hypertrophied part is hard to the touch, and this hardness may be regular, or of a tubercular character, presenting firm protuberances with intervening fissures. There may be ulceration present with a secretion of pus; the canal of the cervix may be everted, and more florid than the surface of the os; and in scrofulous females, the hardness may degenerate into scrofulous ulceration. Hypertrophy of the cervix may likewise be of an œdematous character, or it may be owing to a varicose condition; or, to fibrinous deposit in the substance of the cervix. The affected part may be very tender or painful to the touch, though, in some instances, the sensibility of the part remains unchanged, or even becomes less than natural.

The stages of uterine leucorrhea are, then,—1, Chronic inflammation, with more or less vascular injection; the os uteri opens more than natural, and relaxation of the upper extremity of the vagina ensues, after a longer or shorter time, with some degree of prolapsus. This is succeeded by increased and acrid discharges, giving rise to,—2, Epithelial abrasion, which is followed by,—3, Disorganization of the subjacent papillæ, or ulceration, succeeded by,—4, Hypertrophy and induration.

Discrimination. Uterine leucorrhea is said to be occasionally of *gonorrheal* origin, though W. Tyler Smith rather doubts it, considering this latter disease, when present, as being more intimately connected with the vagina than with the cervical canal. It is difficult, however, to detect the gonorrheal character of either form of leucorrhea. (*See Vaginal Leucorrhea, page* 102.) Uterine Leucorrhea may be determined from the *vaginal* form,

by the alkalinity of the discharge of the former, and the acidity of that of the latter, as well as by the microscopic characters of the two discharges. It may also be determined from *Cancer of the Uterus*, by the previous enlargement of the cervix, and slow progress of the ulceration, the rough, indurated, and harsh feeling of the ulcer, its depth, and the very offensive discharge present in cancer. Simple ulceration occurs more rapidly, its surface is soft and yielding to the touch, not so deep as in cancer, and there is no fetor when the parts are kept clean. The fetor of the cancerous discharge is mixed with an odor somewhat resembling that of the lilac or jasmine. Hemorrhage, when present, is not so sudden and profuse, as in cancer. *Scirrhous induration* is more common to women after the cessation of menstruation, the uterus is immovable, the pelvic cavity filled up more or less by the enlarged cervix, affording but little space for the finger to move in, and the constitutional symptoms are more severe than in simple *hypertrophy* and *induration;* though this last may ultimately degenerate into cancer.

To determine whether uterine leucorrhea be connected with *secondary syphilis*, is not an easy matter. The thin, yellowish appearance of the matter discharged, the profuseness of the discharge and its obstinate resistence to ordinary treatment, epithelial denudation of the cervix, or the appearance of eczematous or aphthous eruptions upon its surface, the fissured condition of the os uteri, and frequent abortions, may lead us to suspect the presence of syphilis; our suspicions will be stronger, when, in connection with the above symptoms, the female complains of pains in the frontal bones, sore throat, cutaneous eruptions, loss of hair, and eyebrows, &c. The suspicions will be confirmed if the female or her husband impart the information that he or she had previously been affected with primary syphilis.

Treatment. In the treatment of uterine leucorrhea, much will depend upon its stage; if the symptoms indicate acute inflammation, means must be taken to subdue it, before curative measures are attempted, by the internal administration of sedatives, as Tincture of Gelseminum, Tincture of Aconite, &c., aided by emollient injections, warm hip baths, &c., simi-

lar to the treatment, named for Acute Metritis. As named under the treatment of Chronic Metritis, leeches occasionally applied, have been advised, and may probably be useful in some unyielding cases, care being taken not to permit the leeches to enter the canal of the cervix, when this is open. Indeed, to remove the inflammatory condition, the treatment given under both Acute and Chronic Inflammation of the Uterus will be proper, according to the character and activity of the symptoms.

An engorged condition of the cervix, will require the means recommended under the treatment of Engorgement of the Uterus, though the removal of this condition will sometimes be very slow.

Local applications must not be employed until the active inflammatory symptoms have subsided, and then any remaining pain or tenderness of the cervix, may be removed by warm hip baths, and the application of Infusion of Arnica to the cervix. The Infusion, and in some cases, even the Tincture, may be kept constantly in contact with the cervix, by means of lint moistened with it, and introduced into the upper part of the vagina, renewing it three or four times a day. This application will also be found very efficacious in vascular injections, as well as in abrasion of the os and cervix uteri. Sometimes I have derived much advantage from a poultice of equal parts of Elm bark and Arnica flowers; the poultice may be carried to the part as follows: Take one or more strips of muslin, five or six inches in width, and roll them up to form an elongated or cylindrical roll about an inch or an inch and a half in diameter; by pressing upon one end of this roll a concavity may be formed, in which the poultice may be placed, and then carried up to the cervix, by properly introducing the roll into the vagina. By this method various poultices may be kept in contact with the cervix, as, of Lobelia and Stramonium leaves, Hops and Peach leaves, or Hops, Peach leaves, and Solomon's Seal, &c.

After all tenderness has been removed, any of the injections recommended in Vaginal Leucorrhea, page 107 may be used, in the same manner as therein advised, using them with perseverance; they give tone to both the vaginal walls and the

cervix. In some cases, where there is constant soreness, or great pain in coition, whether abrasion or ulceration be present or not, much relief will follow the application of a weak solution of Nitrate of Silver to the cervix and os uteri, repeating the remedy daily. The use of Chlorate of Potassa, as well as the Strychnia solution, both of which will be referred to hereafter, will frequently be found efficacious and prompt in action.

In abrasion of the cervix and os uteri, as well as in simple ulceration, there is no necessity for caustics, though these are frequently employed; the agents I prefer, and which have proved successful in my own practice, are the following:—

1. Tincture of Chloride of Iron.
2. A strong decoction of equal parts of Golden Seal and Prickly Elder.
3. A solution of Sesquicarbonate of Potassa.
4. A weak solution of Sulphate of Zinc, or, of Chloride of Zinc.
5. Dissolve Strychnia two grains, in Distilled Water two fluidounces, to which six or eight drops of strong Nitric Acid have been added.
6. Take of Sulphate of Quinia forty-eight grains, Elixir of Vitriol two fluidrachms, Distilled Water six fluidounces; mix.

Various other articles have been recommended, but I have not used them; as, solution of Sulphate of Iron, or of Copper, &c.

Lint, or cotton wool, moistened with one of these solutions, must be placed in contact with the diseased os and cervix; and in instances where the disease extends into the cervical canal, the lint, or a soft piece of linen moistened as above, must be introduced within the canal.

These applications should be renewed three or four times a day, always washing out the vagina thoroughly, and removing any pus which may be present, or cervical mucus which may protrude through the os uteri, previous to applying them. The lint, &c., may be retained in its place by filling the vagina with soft pieces of muslin, or by the introduction of the cylindrical roll of muslin heretofore spoken of—all of which is to be supported by a bandage. One reason why these applications, as well as Nitrate of Silver, fail in some instances, is

because the pain, tenderness, and irritation have not been removed previous to employing them. I have seen an ulcer treated for months with all the various caustics recommended by authors, without any benefit,—or, perhaps, apparently being healed at one time, and as bad as ever at another, and continuing thus, until, the painful symptoms having been subdued by another practitioner, the disease readily yielded to simple treatment. I have sometimes introduced troches into the canal of the cervix, composed of wax and oil, with which Quinia, Strychnia, or other agent, was combined, and with the most beneficial results.

Frequently the abrasion, or ulceration, will disappear under the local application of a solution of Nitrate of Silver, varying in strength from ten to eighty grains of the salt to a fluidounce of water, applying it every one, two, or three days, according to its influence. In some cases, the solid stick of Nitrate of Silver will prove beneficial. Occasionally, instances will be met with, in which the abrasion or ulceration will become very much irritated by Nitrate of Silver, in which cases one of the preceding named preparations may be used, or perhaps a sedative, as the solution of Cyanuret of Potassium named on page 109, or an infusion of equal parts of Golden Seal, Lobelia, and Peach leaves. I have found the Chlorate of Potassa a prompt and efficient remedy in several cases, using it both internally and locally. Internally, a drachm and a half or two drachms may be dissolved in four fluidounces of water, of which the dose is half a fluidounce or a fluidounce, three times a day. Locally, by injection, and by lint, as named heretofore, the same quantity of the Chlorate may be dissolved in half a pint of water, and applied.

Syphilitic ulceration will generally yield to Nitrate of Silver, but occasionally cases will be met with in which this will effect no benefit, and then a solution of the Chloride of Gold and Soda ten or twenty grains to the fluidounce of water, may be advantageously applied. Or, a piece of stick of proper length, rounded and smooth at the end, may be dipped in strong Nitric Acid, the Acid wiped from the stick by a piece of paper, and the ulcers touched with it; enough Acid will be absorbed by the stick to act upon the parts to which it is applied.

The application of any of the agents named, to the abraded or ulcerated cervix uteri, will, of course, require to be accomplished by means of a uterine speculum; with the exception of the cylindrical roll of muslin.

Hypertrophy, with induration of the cervix, will require some of the internal alteratives, together with local applications, on lint or cotton wool, of a strong solution of Iodine, or, of a mixture, made by dissolving two drachms of Hydrochlorate of Ammonia in one fluidounce of water, and adding to the solution one fluidounce of Tincture of Conium Maculatum. Equal parts of White Sugar and common Salt placed in contact with the cervix uteri, by means of a concave pledget of lint, is said to reduce hypertrophy of the part very rapidly; I have never used it.

As to internal remedies, these will always be required in the treatment of Uterine Leucorrhea. The chalybeate and other tonics named under the treatment of Vaginal Leucorrhea, on page 110, will be found very efficacious, in all cases of enfeebled constitutions, with anemia. In many instances, after the more painful and severe symptoms have disappeared, much advantage will be derived from the use of uterine tonics, as, Compound Syrup of Partridge-berry, Aletridin, Caulophyllin, &c. The following will frequently be found an excellent agent: Take of Sulphate of Iron, Leptandrin, each, four grains, Podophyllin one grain, Alcoholic extract of Black Cohosh, a sufficient quantity to form a pill mass; mix, and divide into four pills, one of which may be given for a dose, repeating it three or four times a day. In strumous habits, in cases where the cervix is indurated, &c., Iodine, or some of the alterative preparations, named on page 152, in the treatment of Chronic Inflammation of the Uterus, will be demanded; and if a syphilitic taint be present, the proper remedies for secondary syphilis must be given. Females subject to gouty, rheumatic, or neuralgic diseases, will require the constitutional treatment for such maladies, as Tincture of Colchicum, Tincture of Black Cohosh, &c., &c. As to the condition of the bowels, skin, &c., diet, and regimen, the same measures must be pursued as advised in Vaginal Leucorrhea, on page 110. When leucorrhea is complicated with dysmenorrhea, amenorrhea, menor-

rhagia, &c., these must be treated in the same manner explained hereafter.

There is a form of leucorrhea known as "periodical, or vicarious uterine leucorrhea." It occurs monthly at the catamenial period; the patient will at the time experience the usual symptoms of an attempt at menstruation, as pains in the back and loins, pelvic weight or fulness, sense of fatigue, &c. These symptoms will be succeeded by a white or transparent mucous discharge, instead of the ordinary secretion, and the patient will complain that although she is "regular," yet the fluid is white and not red, and will express great anxiety to have this condition removed. This discharge has heretofore, been considered as a true catamenial secretion, lacking the sanguineous character peculiar to that fluid. It appears, however, to be simply cervical mucus, accompanied with complete or partial amenorrhea; the natural periodical secretion of the cervical canal being increased by an excited condition of this canal. It is frequently met with during lactation, and sometimes during pregnancy. It may be successfully treated by hip baths, and the ordinary means to remove amenorrhea.

NON-MALIGNANT UTERINE TUMORS.

From its constant exposure to exciting causes, and the engorgements, inflammations, &c., therefrom resulting, the uterus is liable to growths of various characters, which may occur singly, or manifold, of all sizes from that of a small pea to that having a diameter of eight or ten inches, and which may be situated upon the cervix, within the cervical canal, or within the uterine cavity. These tumors may be fleshy and fibrous, cartilaginous, or calcareous, and may be located in or upon the proper tissue of the uterus, or may originate from its serous or mucous membranes. They are divided into pediculated, and non-pediculated tumors, the latter of which will be considered at this place.

When small, their presence is scarcely noticed; but when very large, they may alter the shape of the womb, disturb the natural position as well as interfere to a greater or less extent with the functions of surrounding viscera, occasioning weight

and uneasiness from their bulk, or pain when a nerve is pressed upon. The pressure of the tumor may interfere with the evacuations of the bladder and rectum, and may likewise occasion cramps, as well as œdematous swelling of the inferior extremities. A frequent desire to urinate is a common symptom. The constitution rarely suffers, except from the effects of mechanical pressure, the principal danger being at the time of parturition or during pregnancy, when they may seriously interfere with the child's delivery, or, by preventing uterine contraction after the placenta has passed away, be the cause of an uncontrollable hemorrhage; they may also prevent the uterus from returning to its proper, normal condition after delivery, and, sometimes, become attacked with inflammation which may extend into the peritoneum, and prove fatal. (*See King's Obstetrics, Difficult Labor from Tumors, &c., p.* 337.)

These tumors may gradually increase in size, sometimes they advance rapidly, or, having reached a certain magnitude they may afterward remain quiescent. It is often the case that one large tumor will be composed of several smaller ones grouped together. They rarely ulcerate, and, as a general rule, do not interfere with menstruation or conception, unless very large, or favorably located for such interruption. Uterine hemorrhage may be present, and is a most characteristic sign of the disease, but it is not a constant symptom. The consequences of these growths are generally more serious during menstrual life, than after the cessation of this discharge.

They are of firm texture, spherical in form, generally nodulated and irregular, and located on one or the other side of the abdomen, rarely in the mesial line, and are more commonly seated on the posterior uterine wall. When within the uterine cavity, or imbedded in its walls, the functions of this organ are usually more or less interfered with.

Upon making an examination by palpation, and vaginal and rectal exploration, "the tumor will be found situated in the posterior part of the pelvic cavity, and the uterus thrown forward toward the pubic symphysis, and more or less retroverted; the os uteri will be small, healthy and circular; the cervical tissue smooth and healthy, or somewhat turgid and hard. A small tumor just behind the cervix, may be con-

founded with retroflexion of the uterus, and so may a tumor on the anterior wall of this organ. If the tumor is within the uterine cavity, or imbedded in its walls, an examination will find the uterus larger, heavier, and less movable than natural; its lower segment may be distended by the tumor, while the lips of the cervix will be mechanically thinned, and there may be a disappearance of the cervix, the same as in advanced pregnancy. The diagnosis will sometimes be more difficult, especially when the tumor does not project into the uterine cavity,—the uterus will be found enlarged, hard, partially movable, its orifice unaltered, no cervical tenderness, and no thickening of the upper part of the vagina; the introduction of a uterine sound, may discover the uterine cavity to be elongated. Fibrous tumors may always be suspected when the uterus is enlarged, heavy, and hard, the os and cervix being healthy, and hemorrhages frequently occuring without any other assignable cause." (*West.*)

Pathology. These tumors are very analogous in structure. A section of them will discover a dense, greyish tissue, with white fibrous lines, arranged concentrically, in an undulating manner, or around several different centers. The fibers resemble those of elastic, tendinous, or very dense cellular tissue, more or less perfectly matured, with cell-germs and granular matter. The uterine fibers frequently pass over portions of the tumor, or cover it completely, and not unfrequently grow into and form a large part of its composition.

Occasionally these tumors are spontaneously removed, either by a gradual detachment from the uterus and subsequent expulsion; by a peculiar disintegration of tissue, in which the tumor softens, and passes off in small pieces or imperceptibly; by a decay or death of its cellular tissue, occasioned by ulceration of its mucous covering, and which also results in softening; or, by a cretaceous or calcareous induration, in which, although the tumor is not removed, its vitality is enfeebled or completely destroyed, and the symptoms of its presence diminish, or entirely disappear, This calcareous alteration is more common among those tumors located upon the external covering of the womb, the chalky matter being deposited in their substance, or merely upon their outer surfaces, forming a

complete shell; and sometimes this calcification is so thorough that the tumor may be highly polished.

Discrimination. It is frequently very difficult, if not altogether impossible, to distinguish fibrous uterine tumors from some other abnormal conditions; the following circumstances, though not positive in their character, may aid materially in the diagnosis.

To determine fibrous tumors from *ovarian*, it may be well to bear in mind that frequent micturition, as well as retention of urine, seldom occur in ovarian tumor; the fibrous tumor is harder, more movable, more apt to have an uneven surface, and causes more constitutional irritation than the ovarian, except when both ovaries are involved; the ovarian tumor conveys a sensation of fluctuation. The fibrous tumor is more apt to remain in its original situation in the pelvic cavity, carrying the uterus forward as it enlarges, while the ovarian tumor always rises out of this cavity. Hemorrhage may be absent or present in each, but is more common with the fibrous tumor. The introduction of the sound will ascertain a change in the size and form of the uterine cavity in fibrous tumor, which is not present in ovarian. When the fibrous tumor is within the uterine cavity, the lower segment of this organ will be felt distended; and, it is sometimes difficult, if not impossible, in fibrous tumor, to distinguish the os uteri.

When sudden hemorrhage occurs as a symptom of fibrous tumor, it may be distinguished from that of an *abortion*, by being more profuse, and, generally, not attended with pain,—or, if pain be present, it is not like that of an abortion, but is of a dull, aching, throbbing, or burning character. Though when fibrous tumor is associated with neuralgic pains, these may be accompanied with expulsive efforts. In abortion, the uterine lips will be more developed, soft, and patulous; in fibrous disease, they will be firm, undeveloped, and the os closed.

In *anteflexion* or *retroflexion of the uterus*, the os uteri is generally open, hemorrhage is not necessarily present, while difficult urination or defecation is more suddenly experienced; in fibrous disease, the os is closed, generally; hemorrhage is frequently present, and the difficulties in evacuating the bladder

and rectum come on gradually. The uterine sound, when it can be introduced, will also aid us to discriminate between these affections.

The signs of *pregnancy*, as, the softness of the cervix in the early months, and ballottement and the beating of the fetal heart in the more advanced periods, &c., will enable the practitioner to discriminate this state from fibrous disease, in which the cervix is hard, with no development of the lips of the os uteri. A sound like that of the placental souffle is also present in the latter complaint. Pregnancy and fibrous tumor may exist at the same time, and, when this is the case, miscarriage is the usual result. (*See King's Obstetrics, page* 96.)

In *congestion of the uterus* the swelling is more diffused, the cervix sensitive to pressure, and the uterine tissue is not so firm as in fibrous growths.

In *scirrhus*, or *cancer*, the pain is of a lancinating character, there is tenderness of the cervix, and an offensive discharge; the os uteri is thick, hard, irregular, nodulating, and gaping; the disease progresses more rapidly, hemorrhage is more constant and profuse, and there is more severe constitutional suffering than in fibrous tumor.

Polypus of the uterus may be determined from fibrous non-pediculated tumors, by the more constant and profuse hemorrhages, as well as by the leucorrhea, both of which continue to increase in severity, producing anemia and great debility.

Treatment. It has already been stated, that these tumors are sometimes removed by spontaneous softening, or expulsion, but these always occur independent of any remedial measures. Medicines have done but very little in the way of effecting positive cures, though they have palliated unpleasant symptoms, and even checked, in a great measure, the further progress of the tumors. It is, therefore, the practitioner's duty while attempting relief, to likewise use those measures which present even a bare possibility of cure.

When there is much pain or hemorrhage, the patient should be confined to her bed, while these symptoms must be relieved by the means named under the treatment for dysmenorrhea or menorrhagia. At all times, however, a state of rest and quiet is necessary, as well as an avoidance of every thing calculated

to excite or irritate the system, and especially the generative system. Coitus should be prohibited, as it exerts an injurious influence, producing a condition favorable to an increase of the fibrous growth. For the same reason, the erect position, walking, or much exertion, are not advisable. Great attention should be paid to the bowels and bladder; evacuating the latter by catheterism, if required,—remembering, however, that the introduction of the catheter will be found more difficult than usual, and will require some tact. The diet of the patient should be light, moderate, and of a non-stimulating character. In severe cases, the most rigid measures may have to be pursued from year to year, in order to produce or prolong any desirable or beneficial influences on the patient's health and mind. Any irritation or congestion of the uterus may be relieved by counter-irritation to the loins and lumbo-sacral region, as Cupping, either dry or with scarification, Firing, the Compound Tar Plaster, &c., and in some cases anodyne and sedative hip baths will be found useful.

As to constitutional measures, though little has been as yet effected by them, further than to retard the rapid advance of these tumors, it will still be proper to employ them, for the purpose, at least, of maintaining the entire system in as healthy a condition as possible, if not of checking the growths, producing an absorption of them, or, perhaps, favoring some change in their character promotive of their ultimate disappearance. For this purpose, the Iodine Pills may be administered; or, Iodide of Manganese, Iodide of Ammonium, Compound Solution of Iodine, Hydrochlorate of Ammonia, &c., in connection with some vegetable alterative. Care being taken to select those agents which do not disturb the stomach, nor exert any immediate or undue influence upon the system generally.

Fibrous tumors of the uterus should never be removed by an operation requiring an incision into and laying open the abdominal walls; this has been attempted in cases where the tumors were mistaken for ovarian, and in every case, as far as I have been able to learn, with fatal results. When, however, the tumor is not of large size, and partially protrudes, and the life of the female is endangered by the profuse hemorrhage, an

operation termed "enucleation," has been performed, and in some cases, with success.

The general rules of this operation, are, to have the tumor well depressed into the pelvis by an assistant; then, with a scalpel making a free incision (generally from within the cavity of the cervix,) passing down deeply into the tumor, so as completely to divide its capsule, and thus facilitate its bisection, should that be subsequently required. In most cases it will be found convenient to pass the knife into the uterine cavity, and then turning its edge on to the tumor, cut downward, and either forward or backward, according as the mass may occupy either the anterior or posterior wall. No important hemorrhage is to be feared from this incision, and, if directed in the manner indicated, the whole substance of the tumor will intervene between the knife and peritoneum. The capsule of the tumor having been opened, its separation should next be effected by means of the fingers, or, if necessary, by blunt-pointed curved scissors, the finger being used as a director. Curved scissors of various shapes and sizes, and one very long pair, should be provided, as well as several pairs of strong and large vulsella, a spatula, a blunt hook, a scoop, a pair of midwifery forceps, and a strong whipcord ligature with means for applying it. As soon as the tumor is sufficiently separated from its cyst-wall, it is to be seized by its lower part, and drawn, together with the uterus which will invert, to the external parts; this may be done by means of a large vulsellum, carefully placed in the tumor, and constant traction be then made in the direction of the pelvic axis. As soon as practicable place a second vulsellum above the first, or employ the midwifery forceps. As soon as the tumor has been brought down, and removed from its confined space, the relative position of the parts must be carefully examined per rectum, &c., and then the remaining attachments of the tumor be cautiously separated, being extremely careful not to cut into an inverted pouch of peritoneum. When the tumor is very large, portions of it may be cut away before drawing it down. Patience, perseverance, gentleness, and first-rate surgical endowments are required, lest the peritoneal cavity be opened. The tumor being removed, return the everted uterus, and, if neces-

sary, introduce a sponge plug. Ice, Ergot, or diffusible stimulants, and nourishing diet, must be resorted to, according to circumstances. If rigors, or symptoms of pyæmia occur, from twenty to thirty minims of Oil of Turpentine may be given for a dose, and repeated as often as indicated. Opium, in full doses, is especially indicated when restlessness is present; and the Turpentine when the patient sinks, or becomes greatly exhausted, without restlessness. Turpentine stupes may be applied to the abdomen, when there is tenderness. (*J. Hutchinson, Esq.*)

Another method is "enucleation by gangrene," which has proved successful in the proportion of 5 to 11. It has been attempted where dangerous hemorrhage was present, the tumor being very large, and the preceding operation inapplicable. The process is attended with great constitutional irritation, as pyæmia, peritonitis, erysipelas, &c., and is always a dangerous one. Escharotics are applied to the tumor, and repeated as the sloughs fall off. In most cases, after one or two sloughings, the tumor will melt away with astonishing rapidity. Daily manipulations, close watching, well ventilated room, quiet, strict attention to diet and regimen, and a constantly attentive nurse, are necessary. The fetid discharges, and shreds of slough, must be removed as fast as formed; and the patient's strength must be well sustained by all the necessary measures. Ergot of rye may be administed in those cases where it is necessary to keep up vigorous uterine action.

Usually these fibrous tumors do not require the above severe measures, and, as a general rule, the nearer the female is to her catamenial cessation, the less will she have to fear.

POLYPUS OF THE UTERUS.

Polypus of the Uterus is by no means an unfrequent growth, which occasionally degenerates into a malignant disease. It consists of a tumor, which, instead of being imbedded in the uterine tissue, or projecting from it, is attached to some part of it by a stalk or pedicle, and is, therefore, termed a pedunculated tumor. Polypi vary in form, according to the parts from which they spring, and the degree of compression they receive

from the walls of the uterus, or from the adjacent organs. More commonly, they are globular or pear-shaped, and may be met with of all sizes, from that of a small pea to that of a large gourd. Cases have been recorded where they were from twelve to fourteen inches in length, and from three to five inches in their largest diameter. The smaller polypi may be accompanied with profuse hemorrhages, while, from compression and condensation of tissue, the larger ones may bleed but very little. Polypi may be of various colors, as, dark-brown, reddish, or white, and which variety is owing somewhat to the action of the atmosphere, and somewhat to their amount of vascularity.

The parts of the uterus to which they are more commonly attached, are, the fundus, the inner surface of the uterus, and the lips of the os uteri. And it is of much importance to determine the part from which the polypus arises, as the character of the operation for its removal, as well as the difficulties attending the operation, will be owing to this circumstance. This can only be done by careful and repeated examinations.

When the polypus is situated within the uterine cavity, concealed from examination, the os uteri being closed, it will be impossible to positively diagnose it, though we may suspect its presence by the hemorrhages; in such a case, frequent examinations will detect the enlargement of the lower segment of the uterus, and the gradual obliteration of the uterine neck, as well as the consecutive dilatation of the os uteri, through which the tumor emerges, and it may then be felt, and also seen by means of a speculum. As the tumor dilates the os uteri, uterine contractions generally occur, which are sometimes so violent as to detach and expel the polypus, and even invert itself. When in the vagina, the polypus continues to grow, and if allowed to remain any time, that portion of it which is exposed to the action of the atmosphere, ulcerates; the vagina may also become inflamed and ulcerated from its presence, occasioning adhesions between the tumor and vaginal walls. Sometimes, adhesions form between the internal surface of the uterus and the polypus. And when these adhesions occur, they not only interfere with the diagnosis, but likewise with the operation for removing the morbid growth.

It is sometimes the case that polypus of the uterine lip instead of being attached by a pedicle or neck, has a broad base, and appears as part of the lip, it being impossible to determine the boundary line between the two; in such cases, it will usually be necessary, when operating, to remove a portion of the lip itself.

Several species of polypus growths have been described by authors, but for practical purposes they may be reduced to two, viz: 1, The cellular, or soft; and, 2, the fibrous, or hard.

The *cellular* polypus is not met with so frequently as the fibrous, and more commonly arises from the lips of the uterine orifice, or within, from the cervical canal. It has a close resemblance to polypus of the nose, and may occur singly or in groups of two or three. Usually, it is small, soft, lobulated, or divided into bundles of fibers, light, indolent, compressible, white, or more or less tinged with red, according to the quantity of blood-vessels contained in it. It appears to be a growth from the mucous membrane of the os tincæ or of the canal of the cervix uteri, and, occasionally, of the membrane lining the uterine cavity, and consists either of mucous membrane principally, or, when large, containing a considerable quantity of cellular tissue. These cellular growths vary from three to six lines in length by three lines in thickness, and are often compressed and as large as a small fig. They are commonly pediculated, the neck being very slender and of various lengths, but are occasionally met with non-pediculated, being seated by a broad base upon the mucous surface to which they are attached. They are readily removed, and their removal is often followed by a renewal of similar growths. They do not appear to be very dangerous, though they may cause much inconvenience by giving rise to a profuse muco-serolent discharge. The term "mucous polypi" has been applied to them.

Sometimes these soft polypi will be composed of the cervical mucous membrane, the fibro-cellular tissue of the cervix uteri, as well as of its enlarged mucous follicles. They vary in form, are from the size of a pea to that of a walnut, appear singly or in clusters, are smooth and vascular, have an irregular surface, and frequently contain a transparent, or yellowish, viscid fluid. The outer covering of these growths is a delicate mucous mem-

brane with tesselated epithelium, underneath which is fibro-cellular tissue, in which are occasionally found parallel and longitudinal canals. Again, transparent cysts upon the cervix, one or several, may be met with, of various sizes, containing an albuminous substance, and which increase at the expense of the uterine tissue. The term "glandular polypi," has been applied to these, but they appear to be merely an eruptive vesicular affection. Various names have been given to these soft polypi, according to their peculiarities, as mucous, vesicular, cellulo-vascular, and glandular. The vesicular variety is almost invariably located under the lining membrane at the fundus uteri.

Diagnosis. *Cellular*, or *soft* polypus is frequently difficult to detect by the finger, especially when the growth is small; in which case, should the symptoms leading us to suspect its presence, continue, the speculum must be employed. If this does not detect the morbid growth, the os uteri must be carefully dilated with sponge-tents, so that the canal of the cervix uteri may be examined by the finger passed into it, as well as by specular observation.

Soft polypi are generally accompanied with profuse leucorrhea, and sometimes hemorrhages or menorrhagia, which discharges are often readily brought on by coition, and by the contact of the finger or speculum during an examination; in connection with these, are sensations of fatigue, weight, or dragging in the lower part of the body, with much exhaustion when the discharges have been profuse or long-continued. They are a common cause of ulceration, are frequently associated with fibrous tumor or other maladies of the uterus, and when occurring in the vesicular form among females advanced in years, are supposed to be the forerunners of some malignant uterine affection.

The *fibrous* or *hard* polypus may arise from the inner uterine surface, or from either of the lips of the os uteri. Its form is commonly round, especially while enclosed within the uterine cavity, but as soon as it has passed through the os uteri, it becomes shaped like a pear, the smaller end forming the neck, or pedicle, being upward, and attached to the uterus. It may grow very gradually, or rapidly, and sometimes, after having

reached a certain size, it remains quiescent. The pedicle may be short or long, slender or thick, and of various degrees of density, and is usually composed of uterine substances mixed with cellular tissue, and having an external covering from the mucous membrane of the uterus, with a subjacent layer of uterine tissue. The interior texture of the hard polypus is very similar to that of the fibrous growths referred to in the preceding chapter, being composed of uterine tissue, which, although it may, in some rare instances, be enucleated from its investment of cellular tissue, is, ordinarily, more or less intricately connected with that tissue. It receives a scanty but greater supply of bloodvessels than the non-pediculated fibrous tumors, though by no means so large a supply as would lead us to suppose that the profuse hemorrhages accompanying its presence, come from the tumor itself; and it may vary in color and density, being white, grey, yellowish or red, usually hard and solid, but sometimes hollow, or somewhat soft, containing grumous blood, and fatty or gelatinous matter with hair. A polypus does not necessarily prevent conception, though it may subsequently give rise to abortion. Sometimes it may be expelled by the uterine contractions. It rarely becomes malignant, though it may be connected with a malignant disease. It may interfere with labor, when it must be at once removed. (*See King's Obstetrics, page* 339.)

Diagnosis. When a polypus is enclosed within the uterine cavity, it will be a very difficult matter to correctly diagnose it; though sometimes the cavity may be examined by the careful dilatation of the os uteri, by means of sponge-tents. When it has passed into the vagina, a tumor of more or less density will be felt, smooth, rounded, and without sensibility, and, provided the tumor be not so large as to prevent the finger from being passed up, the pedicle can be felt and may be traced to its point of attachment; but a very large polypus will prevent us from making a very satisfactory examination. As the polypus increases in size, and protrudes through the os uteri, the lips will be found to recede upward and become thinner, the same as in pregnancy and parturition. According to the size of the tumor, the uterus expands, and if it be very large it will interfere more or less with the alvine and urinary discharges.

The symptoms accompanying hard polypus are similar to those attending the soft kind, but are usually much more severe. Profuse and irregular hemorrhages are much more common, with paleness of countenance, and, when the floodings have been frequent, small, feeble, and rapid pulse, with occasional faintings, great debility, and dropsical swellings. The appetite becomes deranged, heart palpitates, bowels relaxed, and often there is leucorrheal discharge, with or without fetor. Frequent vomiting is a common symptom. In connection with these symptoms there will be a constant feeling of weight in the pelvic region, with dragging or bearing down sensations, aching in the back, and sometimes uterine pains, which continue intermittently until the polypus has passed into the vagina, or been wholly expelled. Menstruation becomes irregular or suspended. Sympathetic enlargement of the breasts is usually present. If the polypus be within the uterus, palpation above the pubes will discover an enlargement. These symptoms will, of course, vary according to the situation and progress of the tumor, being slight in its early stage, and more severe when it is attached to some part of the surface of the uterine cavity. When the tumor becomes very large, it may pass external to the vulva, and even occasion inversion of the uterus.

Causes. The causes of uterine polypus are not satisfactorily known; though it is supposed to be owing to a low degree of irritation or inflammation, effecting morbid changes in the tissues thus affected. And this state may be induced by all those circumstances which will occasion congestion or inflammation of the various uterine tissues. It is also supposed to originate from a clot of fibrin retained within the uterus after hemorrhage, and becoming subsequently organized. It is stated that females of lymphatic temperament, or those who reside in low and moist places, are more liable to polypus of the uterus, as well as those who are of very sedentary habits.

The profuse hemorrhages which attend the presence of polypus tumors, cannot be attributed to the vessels of these tumors; they are supposed to issue from the mucous membrane of the uterus, which becomes irritated from the presence of the morbid growth, by a reflex nervous influence.

Prognosis. While the polypus is enclosed within the uterine cavity, or remains attached, giving rise to copious hemorrhages, the prognosis will be unfavorable; the subsequent exhaustion may prove fatal, or a gradual termination of life may occur as a consequence of dropsical effusions. Uterine prolapsus or inversion may be produced; if the female be pregnant, a miscarriage may result; or, at full term, the delivery of the child may be prevented; or fatal uterine hemorrhage be induced in consequence of the tumor interfering with uterine contraction, after delivery. If the health of the patient has not been too much impaired by the hemorrhages, &c., a rapid and complete reinstatement of it will follow the removal of the polypus by an operation, aided, in some cases, by subsequent constitutional treatment.

Discrimination. Polypus may be distinguished from *inversion of the uterus*, by its not occurring at the time of labor, together with the symptoms common to inversion. The inverted womb will be of a reddish color, sensitive, soft, velvety, and more yielding than a polypus. As the vagina is usually prolapsed, there will be no vaginal canal into which the finger may be passed. Polypus is generally of a light yellow color, hard, sometimes uneven, not sensitive to the touch, and cannot be pushed into the vagina without some pain and difficulty. If it protrude beyond the vulva, the finger can be passed into the vagina, and around the neck of the tumor, with more or less ease, depending on the thickness of the pedicle. Incomplete uterine inversion, is generally accompanied by a partially dilated os uteri, through which may be felt a round tumor, which disappears when it is pushed upward, and palpation will detect an emptiness of the upper pelvic cavity. While in polypus, the os dilates only as the tumor is about to pass through it, and when felt, no change is effected in its shape or situation by pressure, beside, palpation will discover the enlarged womb. If the polypus has occasioned inversion, two tumors will be felt, the inverted uterus above, and the polypus below.

From *prolapsus uteri*, by observing that the smallest end of the supposed tumor presents downward, and contains an opening (the os uteri,) into which a small bougie may be passed.

In polypus the largest part is pendent, and contains no orifice.

From *pregnancy*, which presents the usual signs, as softening of the cervix, white mucous plug, ballottement, beating of the fetal heart, &c., all of which are absent in polypus.

From *vaginal hernia*, which is elastic, sensitive to the touch, generally reducible by compression, and covered with the mucous vaginal membrane.

From *vaginal cystocele*, which is soft and compressible, of various sizes according to the fulness or emptiness of the bladder, and the tumor is covered with the mucous vaginal membrane; the direction of the urethra becomes changed, and a catheter can be passed into the tumor and its extremity felt by a finger within the vagina.

From *scirrhus and cancer of the uterus*, by the absence of the severe pains preceding ulceration, and by the indurated condition of the cervix; the hemorrhage in these affections does not take place until ulceration ensues. In polypus, the hemorrhage occurs without ulceration, and, when within reach, its neck may be felt.

From *cauliflower excrescence*, by the rough, uneven, granulated surface, which bleeds on being touched. Polypus is smoother, more dense, does not bleed when touched, and has a pedicle.

Treatment. It would be useless to attempt the removal of a polypus within the uterine cavity, the orifice of this organ being sealed; all that we can do, when hemorrhage is present, will be to enjoin absolute rest with the pelvis elevated, and use cold astringent injections, and the tampon, together with internal refrigerant and astringent drinks, counter-irritation to the sacrum, &c. The Tincture of Chloride of Iron, or, the Perchloride of Iron, will be found useful chalybeate astringents when the patient is anemic; in some cases Oil of Turpentine will prove beneficial. The diet should be nutritious and non-stimulating. Coition should be prohibited, lest pregnancy ensue, and thus endanger the life of both mother and child.

When the os uteri is somewhat dilated, and the lower surface of the polypus can be seen through it, it has been advised to administer Ergot, to hasten the extrusion of the tumor

through the uterine orifice, as well as to moderate or check the hemorrhage; and this is more especially recommended when the dilation of the os is accompanied with uterine contractions. Electro-magnetism, repeatedly applied to the os and cervix uteri, has been used with success, for the same purpose. Lobelia, as well as Belladonna, has been recommended to promote the dilatation of the os, but if there be much flooding, this alone will certainly produce the necessary relaxation.

Surgical means are not to be used until the tumor has passed beyond the os uteri into the vagina, when a careful examination should be made not only to ascertain if it is within reach, but also to what part of the uterus its pedicle is attached. The modes for removing a polypus are the following.

1. *Torsion* or *Twisting.* The morbid growths having been brought into view by a speculum, a pair of long forceps is introduced, the tumor seized, and gently twisted till the pedicle breaks. Sometimes, this may be effected by the thumb and finger. This is more especially adapted to the small soft polypi, and those having very slender stalks. If the polypus be rather large, or have a pedicle not very slender, after being twisted to prevent hemorrhage, it may be cut off with a pair of scissors made for the purpose. After the removal of the polypus, touch the part from which it has been removed with solid Nitrate of Silver, to prevent its reproduction. The vagina may be cleansed two or three times a day, for several days, with astringent infusions, and the general health must be attended to. If the pedicle be too large, thick or firm to be removed by this method, one of the subsequent plans may be attempted.

2. *Excision.* In consequence of the evils attending the employment of the ligature, as inflammation, absorption of the putrid matter of the deadened polypus, as well as the time required, and the inconveniences arising from the slowness of the process, &c., excision has been advised by many eminent surgeons. It is quickly accomplished, without any suffering, or injury to the surrounding parts. The only danger to be feared is hemorrhage; though in Dupuytren's practice only two cases of hemorrhage occurred in two hundred operations;

Velpeau has had no serious hemorrhage in twenty cases where excision was employed; and many others have been equally fortunate. While with the ligature, phlebitis or peritoneal inflammation has often occurred. The ligature effectually destroys the polypus, and is not liable to hemorrhage; while excision removes promptly without waiting for the sloughing process,—inflammation or irritative fever is not so apt to ensue,—and should hemorrhage take place it may be checked by the tampon, astringents, or the actual cautery.

The operation may be easily performed. Placing the patient on her back, with the hips close to the edge of the bed, the feet supported on chairs, and the knees firmly held apart by assistants, the tumor is to be seized, according to its size, with the fingers, dressing forceps, or Museaux forceps, and gently drawn down beyond the vulva. Care must be taken not to injure the vagina nor uterus; and if the tumor be so large as not to readily descend by steady and gentle traction, two or three pairs of forceps may be required to draw it down. Various means have been contrived to bring the polypus externally, and in some cases, even a midwifery forceps has been used. When sufficiently protruded, the operator seizes the tumor, and by a pair of stout, curved, probe-pointed scissors, or the bistoury, he divides the pedicle as close to its attachment as can be done without injuring the cervix uteri.

If the polypus be small, and the uterus be considerably elevated, it will be impossible to bring the growth down to the vulva; it will then become necessary to separate the pedicle, either by a blunt pointed and curved scissors, or a curved knife, blunted and rounded at its end. These instruments must be carefully guided by the fingers of the left hand; and in some cases, a speculum may be employed. Some recommend to ligate the tumor first, and excise it, in two or three hours afterward, just below the ligature, and, in many instances, this would be a very excellent method.

Excision has been more especially advised where the polypus is white, with little or no blood-vessels; where its presence has not occasioned a great amount of flooding; where it is firm and large; and where no pulsation can be felt in the stalk.

After the excision astringent injections, the tampon, Turpentine, &c., may be used according to the indications. As polypi occasionally return after an operation by excision or otherwise, some practitioners cut down the remains of the pedicle by applying to it the Sulphate of Zinc or Arsenical paste.

3. *The actual cautery.* Siebold has employed this with success. It may be used by encircling the pedicle with two wires attached to a galvanic battery; when the wires become heated by the galvanic action, the stalk is cut through, and at the same time seared so as to prevent hemorrhage.

4. *The ligature.* This plan is generally pursued as being more universally applicable than either of the preceding modes. It is a more tedious process, however, requiring from seven to twenty-one days for the removal of a hard polypus, and from twenty-four to forty-eight hours for that of a soft one, and is often attended with inflammatory symptoms, constitutional irritation, &c. But, it prevents hemorrhage by interrupting the circulation, while at the same time it destroys the vitality of the polypus; the morbid discharges accompanying the tumor are also restrained at once. The ligature is not always readily applied, sometimes requiring several attempts on the part of the practitioner, who must proceed coolly and carefully, without haste or impatience, and taking full time to complete the ligation. The ligature will prove equally successful when applied to any part of the pedicle, for with the exception of malignant growths, after the separation of the polypus, the remaining part of the stalk most commonly withers, and the tumor does not reappear; though it is always better to encircle it as high up as possible, being especially cautious not to enclose any portion of the cervix uteri within the ligature, nor any portion of the healthy structure of the uterus surrounding the part to which the stalk is attached. This may generally be known by the pain caused on tightening the ligature, which pain is an indication that some other part beside the polypus is included within the grasp of the ligature; this should then be loosened, and retightened over a lower part of the neck.

For the purpose of ligating the polypus, double movable

canula of various kinds are employed, generally Gooch's; which should not be too short, but of a sufficient length. The ligature is generally silk-cord, or whip-cord, which should be thoroughly moistened with Linseed Oil, so as to render it soft, pliable, unaffected by moisture, and capable of moving freely through the tubes of the canula; it should also be long enough not to embarass the operator. The female should have the bladder and rectum emptied, and be placed on her back in the same position as named for "excision."

Having the ligature arranged in the double canula, its two extremities being at the external ends of the instrument, one extremity being free, and the other fastened to the ring on the side of the canula,—this, guided by the finger, is to be passed along the polypus and within the vagina, until its upper end has reached that part of the pedicle around which the ligature is to be applied. Now separate the tubes of the canula, and holding one stationary, pass the other completely round the polypus, until it comes in contact with its fellow tube, and which movement carries the ligature along so that it encircles the pedicle. This done, secure the two tubes together, by the rings made for the purpose, being careful not to allow the ligature to slip off in so doing. Then tighten the ligature, and fasten it upon the canula. If the ligature produce too much pain it must be relaxed, and it should be tightened every day, if this can be borne, until the canula comes away. The female should be kept in bed all the time, and cautioned against making any sudden movements, lest she seriously injure herself. It will also be necessary to use vaginal injections, of warm water, soap and water, astringents, &c., to keep the parts clean, and remove all fetid discharges. The bowels must be kept open by laxative enema, and any pain, irritation, or sleeplessness relieved by anodynes, &c. After the removal of the ligature, the polypus may be so large as to require strong traction with some kind of forceps to remove it; or it may have to be removed by cutting it into several portions. Hemorrhage occuring during the operation, is a strong additional reason why the efforts to ligate should be persisted in. If symptoms of fever manifest themselves, or the pulse becomes quick and hard, or there is a constant pain in the abdomen,

increased by pressure, the ligature must be loosened, and in some cases removed altogether.

When the pedicle is very thick, it has been recommended to use two ligatures; a needle armed with a double ligature, is to be passed through the center of the pedicle, and then by cutting away the needle, each half of the neck will be provided with its own ligature.

5. The *ecraseur* of Chaissagnac has been used with success, in the removal of uterine polypi; it first condenses the tissues, and then divides them. The operation by excision is sometimes followed by dangerous hemorrhage, which may be difficult to control; that by the ligature involves a delay of several days, during which the ligature may require to be tightened again and again, the patient suffering great inconvenience, and exposed to phlebitis, peritonitis, secondary abscess, irritative fever from absorption of putrid matter, &c. While with the ecraseur all these dangers are to a great extent avoided, especially the hemorrhage, and the operation is finished at a single sitting.

In this operation, the polypus must be brought down, the same as for the application of a ligature, the chain of the instrument is then to be passed round the stalk, and tightened so as to encircle it closely; now administer chloroform, and slowly and steadily, with moderate force, cut through the stem, and when this is effected remove the separated polypus.

An instrument for the removal of uterine polypus, acting somewhat upon the principle of the ecraseur, has been invented by Dr. Jas. H. Aveling; its description, together with a cut of it, may be seen in Braithwaite's Retrospect for 1858, page 246.

When a polypus adheres to the vagina, the adhesion must be cautiously and gradually destroyed by means of bent scissors.

After the removal of the polypus the system of the patient must be restored by a proper use of nutritious diet, chalybeates, tonics, exercise, &c.

CANCER OF THE UTERUS.

The enlarged, indurated, and ulcerated conditions to which the cervix uteri is subject, are often very intractable to remedial agents, and are then apt to be confounded with those malignant affections classified under the head of cancer, especially when they present some of the characteristics of cancer; physicians have frequently confounded non-malignant with malignant diseases of the uterus, and have only discovered the error in diagnosis, when the malady eventually yielded to treatment. But there are several truly malignant affections of the womb, to which the term "cancer" is appropriately applied, which, though incurable and beyond the resources of the medical skill of the present day, yet, as they are frequently met with, demand a share of notice. And although palliation of symptoms is all that can be accomplished at present, it is to be hoped that the day is not far distant when all these formidable maladies will be made amenable to treatment. Cancer of the uterus has been divided into several varieties, as epithelial, fibrous, medullary, fungous, &c., but as they appear to be mere modifications of one variety, most generally presenting similar features toward their last stages, I will with the exception of the epithelial form, describe them as hard or scirrhus cancer, in the first stage, and ulcerated or medullary cancer, in the second stage; omitting any notice of the colloid variety, which, Dr. Walshe observes, probably never attacks the uterus.

1. *Epithelial Cancer* or *Cauliflower Excrescence*, to which the term "fungous cancer" has also been applied, is not very commonly met with. It may be met with at any period of adult life, attacks the married as well as the unmarried, and without any regard to habits or temperament. Its progress is usually gradual, and, especially in its early stage, there is no pain. The patient's attention is at first called to a constant and odorless, watery discharge, which gradually increases in quantity, becoming very profuse, and frequently tinged more or less with blood; the abundance of this discharge soon enfeebles the constitution. After a time the discharge assumes a hemorrhagic form, and a copious flow of blood will follow an evacuation of the bowels, coition, or even the contact of the

finger during an examination. The watery discharge continues, and, together with the repeated hemorrhages, produces derangement of the digestive organs, with anemia, dropsical effusions, great debility, and death. If pain be at all experienced from the disease during its progress, it will be very slight; and the discharge possesses but little or no fetor, throughout its whole course. It usually proves fatal in the course of from two to four years, if not removed by treatment.

An examination per vaginam will detect a tumor large or small, and covered with a secreting membrane, attached to the surface of the os uteri by a short, thick stalk, from which it expands into the peculiar cauliflower-like shape, from which the name has been derived. Its surface is soft and spongy, and imparts a granular sensation to the finger, resembling that of the uterine surface of a placenta. As the tumor increases in size, the fissures become deeper, and the extremities of the projecting shreds or filaments softer and quite loose.

If a speculum be introduced, or when the patient is placed in the position for vaginal examination, named on page 86, the tumor will be observed varying from a pale flesh color to that of a bright red, transparent, its surface presenting small granulations, which are very vascular, often bleeding readily; sometimes the surface will be smooth, with numerous prominences, or elongated granulations, which frequently hang in fringes, somewhat like a mass of uterine hydatids. The ends of these are very soft, but the whole tumor becomes firmer as it advances toward the base. And it is not uncommon for the most gentle examination to break down some of the softer part of the tumor. Either lip, or the whole of the margin of the os uteri may be involved in the disease. The edges of the ulcers which frequently form on the uterine lips are irregular and excavated, presenting the appearance of an ordinary cancer of the part. The disease appears to spring from the papillæ of the os uteri. Under the microscope these growths appear to consist of enlarged papillæ, composed of epithelial cells furnished with vessels, and covered by an epithelial membrane. When removed from the body they collapse, owing to their vesicular character; and it has been found impossible to

inject them. Although this disease may often be merely a local difficulty, curable by its removal, yet, it is considered a modification of encephaloid cancer, having numerous capillary loops accompanying it, and, therefore, incurable.

Causes. The causes of this malady are not understood.

Discrimination. Epithelial cancer may be determined from the *fungous surface of cancer* by the softness and mobility of the tumor, its attachment to the lip of the os uteri, and the want of fetor in the discharges. In the first, anemia is produced; in the latter, irritative fever. From *polypus* or a *fibrous tumor*, by the absence of a pedicle, its softness and granulated surface, and the watery discharge; in either polypus or fibrous tumor the growth is harder, mostly smooth, and does not bleed when handled. During pregnancy epithelial cancer may be mistaken for the *margin of the placenta*, and the diagnosis might prove difficult, unless ocular inspection would expose the true character of the affection.

Treatment. In addition to the general measures hereafter advised under the treatment of the succeeding forms of cancer, local measures may be employed, if not with the hope of cure, at least with a desire to check the progress of the disease as much as possible, and thereby lengthen the days of the patient. To check the hemorrhage, the tissue of the excrescence may be broken down with the finger, and Perchloride of Iron, or the Tincture of Chloride of Iron, be injected; and either of these preparations may be given internally to combat the anemic habit produced by the excessive loss of blood, as well as to produce an astringent influence. The growth may be destroyed in many instances by a paste composed of dried Sulphate of Zinc and Glycerin; or, Chromic Acid may be applied; or, when the hemorrhage is alarming, a ligature may be applied around the base of the excrescence, and after its removal, the paste of Sulphate of Zinc, or the Perchloride of Iron, should be kept constantly in contact with the exposed surface, by means of a dossil of lint. When the tumor is small it may be excised instead of ligated; and even a portion of the cervix or os uteri may be included in the excision; cures have followed the operation.

Cold douche to the loins and genitals, cold astringent vagi-

nal injections, the recumbent position constantly, positive abstinence from coitus, soluble condition of the bowels, mild, non-stimulating diet, and avoidance of all mental excitement, are necessary measures.

Scirrhus or *hard cancer*, is the hardest of cancer growths; it is always confined to the vaginal portion of the cervix uteri at first, and though it is more usually met with at the time of the cessation of menstruation, or at any subsequent period, it is frequently observed at a much earlier date. A tumor is felt growing from some portion of the cervix, or, there may be an enlargement of the cervix, either of which are hard and incompressible, of varying size, and presenting a smooth, irregular, knotty or uneven surface. The os uteri will be open more than natural, its margin indented or puckered, hard, and tense, and as the disease advances, pain will be produced on pressing upon the cervix. As the affection increases the morbid deposition becomes so extensive between the various neighboring organs, as to unite them into one large mass, so that the pelvic cavity becomes more and more occupied, till there will be scarcely any space for the finger, and the mobility of the uterus diminishes, until it becomes absolutely immovable. Previous to ulceration of the tumor, it will become more or less softened, with considerable pain and tenderness. Fibrous cancer of the uterus is not of frequent occurrence; Rokitansky states that it is of extreme rarity, while medullary carcinoma occurs frequently.

If a speculum be employed, the cervix will be found enlarged, glossy, and distended, sometimes flabby, and of a dark red or brownish color. Scirrhus cancer is of very slow growth, of not well defined limits, being usually lost in the substance of the womb, and consists of reticulated fibers, whitish, and very dense, in the intervals between which is a translucent substance, of a pale-yellowish or grayish color. The fibers are very hard, and appear to be the proper tissue of the part, while the translucent material seems to be a morbid, inorganized secretion; the first being due, probably, to an altered condition of the nutritive function of the part attacked, the latter, to an exhalation or secretion of morbid matter.

Ulcerated Cancer. After a longer or shorter time some part of the scirrhus tumor softens; this is soon succeeded by destruction of the mucous covering of the os uteri, and consequent ulceration, and the disease is now termed "cancer." This ulceration usually begins at the cervix, but it may commence at any other part of the uterus. The ulcer is uneven and ragged, with hard, irregular, elevated edges, its surface dark-brown, or grayish, and discharges a thin, ichorous fluid, very offensive, but in which may be detected a lilac or jasmine odor. This offensive discharge is not observed until after the ulcerative process, and is of a most insupportable character. Sometimes, the fetor is not noticed until the ulceration has progressed considerably; though it must be recollected that fetid discharges from the vagina are frequently met with, where no ulceration nor malignant disease exists. The discharge is generally very copious; acrid, excoriating or irritating the parts with which it comes in contact, or occasioning soreness and itching of the vulva; and may be of various colors, as green, black, dirty-white, or dark-brown.

The ulceration is also accompanied with pain and hemorrhage, and may extend to the neighboring parts, involving and destroying the greater part of the uterus, the vagina, bladder, rectum, and other pelvic viscera, as well as the periosteum, being first preceded by morbid deposition and thickening of the parts attacked.

According to many very eminent pathologists, the element of cancer consists of three parts: cell, nucleus, and nucleolus, all of which are peculiar to it, and should be studied under a microscope of at least 500 diameters, and giving a clear definition. A drop of the matter of cancer may be placed on a glass slide and covered with a thin glass, or, the cut surface of the tumor may be scraped with a scalpel, and a little water added to it, and then placed on the slide as above, and then examined.

"In all the varieties of cancerous tissue, nuclei are to be found, either enveloped by a cell, or floating free, generally more or less of both; in some specimens there exist a large number of free nuclei, with only an occasional cell. The form

and appearance of these nuclei is the most constant and unvarying of all cancer elements. They are ovoid, (see Fig. 22,) or more or less round; the latter are found more particularly when the eye or the lymphatic glands are the organs diseased. * * They have, ordinarily, in width, a diameter of from 1.100th of a millimetre, (a millimetre being equal to .039th of an inch,) or of .0039th of an inch, to 1.66th of a millimetre,—in one instance we met with one as wide as 1.38th of a millimetre; in length they measure from 1.133d to 1.100th of a millimetre. Their contour is dark and well defined, with the interior containing very minute dark granulations; indeed, when the specimen is perfectly fresh, they have a homogeneous aspect, the granulations being so small as to give the appearance of a mere shading; if the specimen is kept a day or two, we find the interior filling up with larger granulations. Within these nuclei, when they have not been obscured by granular or fatty degeneration, there is found habitually a small body, or *nucleolus*, averaging in diameter about 1.500th of a millimetre. These nucleoli have somewhat of a yellowish tinge, with a brilliant center and dark borders, refracting light like the fat vesicles. We would call attention, particularly, to the peculiar brilliancy of the centers of these nucleoli, which we think is characteristic."—*Donaldson*, in American Journal of Medical Sciences, No LXIX., new series, Jan. 1853, page 59. Paul Broca of Paris, in a publication on Cancerous Tumors, translated by Geo. W. Otis, M. D., of Springfield Mass., says:—"The fundamental and characteristic element is the *cancer nucleus*. The nucleus is sometimes free, sometimes included in a cell-wall. Free nuclei are never absent. They occasionally exist alone, constituting *nuclear* cancer. The free nuclei (Fig. 22, *a*,) are exactly similar to those contained in cells. They are remarkable for their large size, their uniformity, and the dimensions of their nucleoli. There are commonly only one or two nucleoli in each nucleus, but there may be three. The diversity of the cells is in striking contrast with the uniformity of the nucleus. Some, (*b*,) are small and regular; sometimes they preserve their regularity as they increase, (*c*,) but in other cases (*d*, *g*,) they assume the oddest and most irregular forms. Most of the cells contain only a single nucleus

but not unfrequently two or more nuclei are found in the same cell (*d*,). Lastly, it is not rare to find cells that contain one or more nucleated cells (*e*,); these are called *mother cells*. This extreme variety in the form of cancer cells has been thought to prove that there was nothing specific in these elements. This is perfectly true. The nucleus alone is specific; but the capricious variations in the cells, far from embarrassing the diagnosis, is one of the best characteristics of cancerous tumors. No other accidental product exhibits such changing forms; besides, the nucleus is always present, to establish the identity of these varied cells. Apart from these nucleo-cellular elements, cancerous tumors contain accessory elements, to which the diversities in their aspect and consistency are due. The most important of these is fibrous tissue. If this is abundant, the tumor is hard, and takes the name of scirrhus; if it is sparingly developed, the tumor is soft, and is termed encephaloid, &c."

Fig. 22.

a. Five free cancer nuclei. *b*. Small cancer cell. *c*. Large cancer cell. *d*, A cell with two nuclei. *e. e.e.* Compound or mother cancer cells, containing two, three, or more nuclei. *f*. A mother cell containing a simple nucleus, and a nucleated cell. *g*. Irregular and bifurcated cancer cells, the most usual forms. *h*. Cells containing double nuclei; cancer of the bladder invariably contains this variety.

It may be proper to state, however, that there is much diversity of opinion among medical men as to the detection of cancer by means of the microscope; and, notwithstanding the above remarks by close and correct observers, recent investigations have placed this instrument among the doubtful methods of determining the presence of this formidable disease.

Causes. Cancer appears to be due to a perverted nutrition of the affected part, connected with a morbid deposition; of its causes but little is known. A predisposition to it appears to be common to certain families, the females of each generation

being attacked with it at certain periods of life. The various kinds of excitement and congestion which the uterus undergoes during its unimpregnated condition, as well as the alterations produced by pregnancy, aided by excessive coitus, temperament, high living, &c., may, possibly, have a tendency to dispose to cancer of this organ But then, it frequently attacks females who have never cohabited, and after the "turn of life." Masturbation, mental depression, syphilis, bad food, debilitating occupations, suppressed cutaneous eruptions, &c., have been named as exciting causes of cancer; but these are only surmised causes. Cancer of the uterus is seldom present previous to the twenty-fifth year, and is more common between the ages of forty and fifty, and among those who have given birth to children.

Symptoms. In the early stage of scirrhus the symptoms hardly attract the patient's notice; but, as it progresses, pelvic uneasiness, or weight, will be experienced, with pains in the back or loins; and occasional shooting pains in the uterus, or through the pelvis, though this last may be wanting during this stage. As the disease advances, menstruation will become irregular, menorrhagia being more common, the rectum and bladder become uneasy from the pressure upon them, and there will be a frequent desire to evacuate these organs, and their evacuations may be attended with pain; a sensation of pressure in the rectum, supposed by the patient to be owing to piles, is usual. A leucorrheal discharge of a mucous or muco-purulent character, ensues; it is not offensive, and is occasionally tinged with blood. If the enlargement be very considerable, it will, by its pressure upon vessels, interfere with the circulation in the inferior extremities, causing them to be œdematous.

The disease continuing to advance the pain increases, and after ulceration has ensued, it is of a burning, lancinating, or cutting character, and is more or less constant, the more severe attacks of it occurring at irregular periods. It may be confined to the uterus, or, may extend to the loins, thighs, and rectum; and is often very distressing at night. It is truly an agonizing pain. Hemorrhage is generally present in both stages, and is an early indication of the disease; it may occur periodically, in greater or less quantity, or there may be a constant but not

copious flow of blood, in either case greatly enfeebling the system. The hemorrhage is supposed to arise, as in polypus, from the mucous uterine membrane. After ulceration, the intervals between these floodings are lengthened, and, in some cases, they cease entirely after ulceration has progressed. The hemorrhages occurring in the stage of scirrhus, are often supposed by females in whom menstruation has ceased, or become suspended, to be a return of this discharge.

In the ulcerative stage, the fetid discharge heretofore referred to, ensues; and the general system of the patient suffers; from the repeated hemorrhages the pulse becomes small, wiry, and rapid, the digestive functions are gradually impaired, heartburn, palpitation of the heart, vomiting, &c., occur. The bowels become loose or costive, or these conditions may alternate with each other; acute and transient pains are experienced in various parts of the body, particularly in the breasts; neuralgic pains are by no means uncommon; and more or less severe pain is apt to accompany cohabitation. The patient becomes greatly emaciated; the skin dry, swollen, wrinkled, of a dull white, or straw color; sometimes bluish. The bladder is generally in an irritable condition, with frequent desire to urinate. The tongue may be pale or dark red, dry and shining, and is occasionally sore or covered with aphthous spots, as well as the angles of the mouth, and which is more usually observed in the latter stage of the disease. Sleep is very much disturbed. Slow fever sets in, with night sweats, the eyes are sunken, the lips contracted and livid, the features sharp and expressive of pain and suffering, and presenting the appearance of a corpse; finally, colliquative diarrhea, dropsy, increase of pain, vomitings, and copious floodings, will relieve the patient from her misery by terminating life. These symptoms will be found to vary in each individual case, though some of them will always be present. In a few instances, the pain may be trifling, or, the hemorrhage may be slight, or, the fever may be milder, &c.

When the bladder, vagina, or rectum are involved, their coats being perforated by the ulceration, so as to establish a communication between them, the urine and feces are discharged involuntarily, and into the vagina; the wretched condition of the patient is increased by the irritation and excoria-

tion of the parts over which the urine flows, as well as by her repulsiveness to herself and to her attendants.

Discrimination. Scirrhus may be determined from *fibrous tumor*, by being less defined, more uneven or knotty, and by the pain and ulceration in the last stage. From *simple induration*, by its greater hardness and unevenness, by being less red and vascular, by the morbid deposit in the neighboring textures, with an increased immobility of the womb. From *pregnancy*, by the gradual progress of the disease, the hardening of the cervix, and the presence of menstruation, and the absence of the signs common to pregnancy. From *moles*, *hydatids*, &c., by the hardness of the cervix, the extension of the morbid deposit into the surrounding tissues, and the termination of the affections.

Ulcerated cancer may be determined from *simple ulceration of the cervix*, by the greater size of the uterus, occasioned by the morbid deposit, the depth of the ulcer, the fetid discharge, the immobility of the womb, and the more severe general symptoms. From *corroding ulcer*, by the immovable condition of the womb, and the small space for the finger in the vagina, occasioned by the morbid deposition in the parts. From *syphilitic ulcers*, by the womb being immovable, the vagina considerably occupied by the extension of morbid deposit, the depth and ragged condition of the ulcer, severe, lancinating pains, and its obstinacy to treatment.

Treatment. In the way of cure not much can be expected; in the way of palliation considerable can be done. In the state of scirrhus many remedies have been advised; but the internal remedies on which I would place the greatest reliance are the following:—Take of Arrow Wood, (Viburnum Dentatum,) Button-grass root,* White Pond Lily root, Yellow Dock root, of each, four ounces; mix, and make a gallon of decoction or syrup, of which the patient may take a wineglassful three or four times a day. This preparation I would use as a constitutional remedy in both stages of the disease. In addition to this, a pill may be composed of the Inspissated Juice of Coni-

* The Button-grass which I refer to is common to Virginia and North Carolina; I have used the root, but never having seen the plant cannot give its botanical name. Probably, it is an Eryngium.

um Maculatum, into which as much Red Oxide of Iron, or Peroxide of Iron, has been worked, as will not interfere with its pilular consistence; three or four grains of this may be given every three or four hours, according to the symptoms produced. With these the Iodine pill may be given, or Iodide of Potassium may be added to the syrup.

Phosphate of Iron, as well as other preparations of this metal, have been used with advantage in the cancerous cachexia. They will frequently be found more effective when combined with some preparation of Manganese. The Bromide of Potassium in doses of from five to ten grains, with one, two, or three drachms of Cod-liver Oil, is said to exert a potent influence, checking the growth of the tumor, lessening its size, and diminishing pain, at the same time improving the general health.

Hemorrhage, which is the most alarming symptom, should be met with the internal use of Perchloride of Iron, or the Tincture of Chloride of Iron; either of which may also be applied locally, by injection. In their absence other astringents may be employed. Six or eight grains of Gallic Acid, administered every three or four hours, will usually check or suppress the hemorrhage promptly. The patient should be kept quiet, and cold applications may be made to the hips, thighs, and abdomen. The bowels must be kept free, either by laxative enema, or by saline purgatives; the condition of the kidneys and bladder must not be neglected, giving Uva Ursi in infusion, together with Liquor Potassæ and Tincture of Hyoscyamus, to allay the irritability of the bladder; and infusion of Trailing Arbutus, Buchu, Pareira Brava, or Hydrangea, when phosphatic deposits are found in the urine; and the surface of the body should be bathed daily. The diet should be moderate, nutritious, non-stimulating, and of easy digestion. Both mind and body should be kept as free as possible from excitement or irritation; pleasing occupations and amusement are desirable. Cohabitation is entirely out of the question.

As a local application to the cervix during the state of scirrhus, with a view to check the rapid advance of the disease, if not to effect a complete normal change in it, a mixture of Muriate of Ammonia two drachms, dissolved in Distilled Wa-

ter one fluidounce, to which add Tincture of Conium Maculatum one fluidounce, may be used; keeping it constantly in contact with the cervix by means of lint moistened with it and passed into the vagina, changing it three or four times a day. Or, the Compound Plaster of Belladonna may be applied in a similar way; this will also relieve pain, for which purpose it may likewise be applied over the pubes, or on the lumbo-sacral region, during the ulcerative stage. A paste composed of Iodide of Cadmium and Glycerin, and applied to the cervix in the same manner as the preceding, will be found useful, and especially, to relieve severe pain when this is present; it may be used in both stages of the disease,—so, likewise, may a solution of Bromide of Potassium in Glycerin.

The severe pains will also require narcotics locally, as well as internally; their internal use, however, should be postponed as long as possible. Conium, Belladonna, Stramonium, Hyoscyamus, Indian Hemp, &c., should be given in proper doses, alternating them as required, and prescribing opiates only when the others fail to produce a favorable influence. When the anodynes appear to lose their influence, by combining them with a draught containing Ether, this will be regained, and will continue for a time without any increase of the original dose; or the anodyne may be added to a mixture of fifteen minims of Chloric Ether, and twenty minims of the Compound Spirits of Ether, for a dose. As local agents, infusions, extracts, or poultices of the anodynes, may be placed in contact with the diseased surface.

The discharges may be diminished, and their fetor removed by various local applications; as, a solution of Nitrate of Silver twenty grains to a fluidounce of water, which may be injected into the ulcerated mass; two or three drachms of Chloride of Lime, or Chloride of Soda, to a pint of water, will also be found useful; or, thirty minims of Creosote to half a pint of infusion of Elm bark, or White Pond Lily root; or, an infusion of Wild Indigo; or, Pyroligneous Acid, &c. The vagina should be well washed with these as well as the diseased surface. Sulphate of Iron, thirty grains, dissolved in half a pint of water, to which add a drachm and a half of Extract of Conium Maculatum, is said to diminish the discharge, and lessen

the sensibility of the part; it may be placed in contact with the part, by means of lint moistened with it. Tincture of Chloride of Iron, or the Perchloride of Iron, will be found excellent as applications to the ulcerated surface, repeating them three or four times a day. Infusions of various articles will be found useful as local agents, as of Golden Seal, White Oak bark, Arrow Wood, Geranium, Carrots, Peach leaves, Wild Cherry bark, &c. It must be recollected, however, that many astringents, as Alum, Sulphate of Zinc, Acetate of Lead, &c., though they may check hemorrhage, are very apt to cause pain, irritate the ulcers, and ultimately increase the ichorous discharge.

Caustics applied to the ulcerated surface, although they do not effect a cure, are frequently of service in relieving pain, and checking fetor; the agents which have been used are the Sesquicarbonate of Potassa; Chromic Acid; Sulphate of Zinc; Nitrate of Silver; a mixture of Sulphate of Zinc and Sulphate of Copper, each, four drachms, Sulphate of Morphia one drachm; and Galvanic Cautery; always being careful to protect the surrounding tissues from their action. Chloride of Zinc is too deliquescent to be used in uterine cancer. A plaster composed of Manganic Acid, Arsenious Acid, each, half an ounce, Charcoal two drachms, Extract of Belladonna six drachms, has been recommended in cancer, but what may be its action in uterine cancer I cannot say. Manganic Acid with Potassa, forming a dark-green powder, applied to the part in a thick layer, and then formed into a paste by dropping a little water on it, is stated to act favorably, and with little or no pain.

In the advanced stage of the disease when the mouth becomes sore, a solution of Chlorate of Potassa two or three drachms to a pint of sweetened water, may be taken daily, in divided doses. Irritability of the stomach, with a very red and aphthous condition of the tongue, may be relieved by iced water, sucking small pieces of ice, use of Soda or Seidlitz draughts, cold infusion of Solomon's Seal, or of White Pond Lily root, &c. A very distressing sense of faintness and nausea may be palliated by some ammoniacal liquid, as Aqua Ammonia, Aromatic Spirit of Ammonia, &c. Unfortunately, these are about

the only means at present known as being useful in palliating the symptoms attending cancer of the uterus; to effect radical cures of the disease, excision of the cervix, and even extirpation of the whole uterus has been tried and recommended, but I have no confidence in either of these operations.

CORRODING ULCER OF THE UTERUS.

Corroding Ulcer of the Uterus is a formidable malady, but, fortunately, is rarely met with. Females of spare habits and lymphatic temperament are said to be more liable to it than others, and its attacks are usually during middle age, although it has been observed in younger persons. It is not so rapid in its progress as cancer, though quite as fatal in its results; and it has sometimes continued for years before the patient sunk under it. Its causes are involved in obscurity.

Symptoms. In many respects the symptoms are similar to those of cancer; there may be no uncommon sensations to attract the patient's notice in the early part of the disease, or, there may be leucorrhea, with feelings of heat, pain, or discomfort in the pelvic region. More commonly, a copious discharge of blood, is the first symptom which attracts notice, and even this may be viewed as a catamenial anomaly. The hemorrhage may be constant, or it may return at irregular intervals, becoming less profuse with longer intervals, as the malady advances toward its termination. A yellowish or brownish thin, watery, acrid, and very offensive fluid is constantly discharged during the progress of the disease, which is, generally, very abundant. Excoriation of the genitals, from the contact of this acrid discharge, adds considerably to the patient's affliction. Local and constitutional symptoms soon manifest themselves, as a constant and very annoying sense of weakness in the back and loins, and, commonly, more or less pain; though these symptoms have occasionally been absent. When pain is present, it varies in character, being described either as dull, lancinating, cutting, or burning, and is frequently very severe. The appetite becomes impaired, the bowels loose, or alternating with constipation, the skin dry and sallow, the pulse quick and feeble, with nausea, symptoms of dyspepsia, emaciation, low

fever, and great debility. Death may occur from loss of blood, great exhaustion, or from inflammation of the peritoneum, occasioned by the ulceration spreading to the peritoneal cavity.

An examination per vaginam, will detect ulceration of considerable depth, and of greater or less extent, the surface being rough, granular, and insensible when the finger is passed over it, or occasioning a feeling of soreness, or, perhaps, severe pain. The uterus will be movable, with none of the hardness met with in cancer, and from the destruction of the parts, there will be more space in the pelvis for the finger to occupy. If the speculum be used, or the patient be placed in the position for examination, named on page 86, an irregular, sinous, jagged ulcer will be seen, the base and edges of which are thickened or hypertrophied in consequence of an indolent inflammatory process, the adjacent structure, however, being free from any induration; the surface of the ulcer is red, and covered with a slight glutinous and purulent, or a profuse watery, secretion. The ulcer most commonly commences in the mucous membrane of the cervix uteri, involving the whole circumference of the os, and extending more or less rapidly along the cervix to the fundus, and even into the vagina, bladder, and rectum, destroying these parts as it advances. No microscopic investigations of the character of the diseased tissues are on record.

Discrimination. Corroding ulcer, in consequence of the similarity of symptoms, may readily be confounded with *cancer;* in cancer, the morbid deposition renders the pelvic contents immovable, and, by filling up the cavity, diminishes the amount of space for the finger to occupy; in corroding ulcer, the uterus is movable, and as no morbid deposit has taken place, but, on the contrary, more or less extensive ulceration, the finger will have more space than usual to move in. In the examination it may be necessary to introduce the finger into the rectum to ascertain the condition of the adjacent parts.

It may be determined from *simple ulceration*, in which the ulceration is not so extensive; hemorrhage is rarely present, save to tinge the discharges, which are not fetid; the pain when present is less severe; and there is no malignancy about it.

Treatment. But little more can be expected by treatment than to palliate severe symptoms, and possibly prolong the patient's life. The means to be used are about the same as in cancer. Caustics, to check the further progress of the ulceration if possible; astringents, internally and locally, to check the hemorrhages; antiseptic injections, to remove the fetor of the discharges; and anodynes, to relieve pain. The patient should be kept quiet; the parts kept clean by frequent bathings, which will also tend to prevent excoriations; the diet must be nutritious and non-stimulating; coitus must be abstained from; the bowels and kidneys kept regular; the skin bathed daily; and alteratives administered internally as Compound Syrup of Stillingia with Iodide of Potassium, &c. Tonics must be prescribed according to indications. From the influence of Chlorate of Potassa in cancrum oris or phagedenic ulceration of the mouth, the internal and local employment of this salt has been suggested.

Nitric Acid applied every week or two to the ulcer, has been found useful, checking the rapid progress of the ulceration, relieving the more severe symptoms, as pain, hemorrhage, and fetid discharges, and, apparently, prolonging life for a few years. The state of congestion preceding the ulceration has been cured by Caustic Iodine applied locally; probably Arnica, or St. John's Flowers might be found useful. Nitrate of Silver is stated to increase the tendency to the congestion of the womb, which exists previous to the commencement of this form of ulceration.

RHEUMATISM OF THE UTERUS.

The uterus is subject to rheumatic attacks, both in the pregnant and unimpregnated state; and is, no doubt, a frequent cause of dysmenorrhea. It is produced by cold, especially when conjoined with dampness, lack of clothing, sudden changes from heat to cold, and vice versa, and other causes which may give rise to the disease in other portions of the system. It is very common among females of rheumatic diathesis, though its attack is often confined to the uterus, no other part of the system suffering from it; and it may likewise be a

metastasis of the disease from other parts. The false pains which are frequently experienced in the last weeks of pregnancy, are, no doubt, often due to a rheumatic affection of the uterus. The so called *irritable* or *neuralgic* uterus, is, undoubtedly, in many instances, a true rheumatism of the womb.

Symptoms. The symptoms of this malady are pains in the region of the womb, together with a sense of heat, fullness or heaviness, bearing down, and a constant desire to urinate or defecate. If menstruation be present it will be painful. The pain may be confined to a part of the uterus, or it may occupy the whole organ; deep pressure above the pubes, made downward and upon the fundus, frequently augments the severity of the pain. When the fundus only is affected, the pain will be felt just below the umbilicus; when the lower part of the uterus, it will be felt low down, and be accompanied with distressing dragging sensations about the pelvis, thighs, loins, &c. The intensity of the pain will vary very much, being sometimes so severe as to not permit the least pressure upon the abdomen, as for instance, of the bed-clothes. The pain may also shift from one part of the womb to another, or, to some other part of the system; or, it may suddenly cease. If an examination per vaginam be made, there will be found the ordinary condition of the os and cervix uteri, but which become more or less painful when the finger presses upon them. The constitutional symptoms, when any exist, are the same as met with in rheumatic attacks of other parts.

Rheumatism of the uterus is apt to be more troublesome during pregnancy and at the time of labor. It may occasion an abortion; or, when occurring during labor, it may interfere with the expulsion of the fetus, and prolong the period of labor, beside occasioning very severe local and constitutional suffering. (*See King's Obstetrics, p.* 309.)

Discrimination. Rheumatism of the uterus may be confounded with inflammation of that organ, as the symptoms are very similar. In rheumatism, when the uterus is at first touched by the finger, pain is produced, but upon gently and slowly raising the organ, the pain is relieved or ceases, and the bearing down sensation is removed; in inflammation of the uterus the longer the finger presses upon the womb the more is

the pain increased, beside which, the constitutional symptoms are more severe. When the uterus is suddenly attacked with severe pain, and the female has previously suffered in other parts from neuralgia or rheumatism, we may strongly suspect the rheumatic nature of the uterine attack.

Treatment. The bowels must be kept regular by mild laxatives internally, or by injection. Frequently, the Hot Air Bath, aided subsequently by Dry Cupping, Firing, or Mustard plasters over the lumbo-sacral region, will be sufficient to give prompt relief. Or, diaphoresis may be induced by the employment of the Compound Tincture of Virginia Snake-root: In some instances, half a teaspoonful of the following mixture, every two or three hours, will be found very efficacious: Take of Tincture of Gelseminum one fluidounce, Tincture of Aconite one fluidrachm; mix. In severe cases of pain, a warm fomentation of Lobelia and Stramonium leaves may be applied over the abdomen, renewing it every two or three hours. To make a permanent cure, the same course must be pursued as would be required to effect a cure of rheumatism attacking any other part of the system.

To prevent uterine rheumatism from occurring at the time of labor, the Compound Syrup of Partridge berry should be administered during the whole period of pregnancy, aided by proper diet, regimen, avoidance of improper exposures, &c.

MOLES, HYDATIDS, &c.

These formations, sometimes termed *false conceptions*, are not owing, as many persons suppose, to any difficulty in the act of coition, but to a blighted or diseased condition of the egg or ovum; they may, in one sense, be looked upon as abortions. There are three varieties of these morbid growths, known as, 1, Blighted conceptions; 2, Fleshy moles; 3, Vesicular moles or hydatids.

Blighted or false conception is due to some disease or imperfection in the ovum; an organized mass is formed which grows slowly or rapidly as the case may be, becoming firmer and denser, until it is expelled by the contractions of the womb. In connection with the blighted ova, although the

fetus may not be present, there will frequently be observed some remains of the cord, chorion, amnion, or placenta. If the mole thus produced is not expelled in three or four months, it will become transformed into a fleshy mole.

A fleshy mole is denser and more shapeless than the preceding variety; it may be solid or hollow, of irregular form, rough and fissured, in consistence like the placenta, or more compact, and occasionally enveloped in a thin, calcareous layer. Portions of the fetus or secundines are sometimes observed in these fleshy moles.

The vesicular mole or hydatids are small, transparent or translucent bladders, of various sizes from that of a pin's head to that of a gooseberry, and of an oval, round, or elongated form. They are united together by slender stalks, and grow in clusters like currants, having, however, a large, hard central body around which they group. They contain a transparent, pink, or straw-colored fluid, aqueous or gelatinous, of less specific gravity than distilled water, and which imparts a green color to syrup of violets; it is usually inodorous. They possess an external, thin, serous coat; a middle fibrous one; and an internal mucous one; and vessels may often be seen on their surface, either white or red. They are, most commonly, expelled in five or six months, but rare instances have occurred where they have continued, gradually increasing, and accumulating in numbers and weight, for several years. They are almost always owing to intercourse; though some authors state that they are occasionally the result of a morbid action of the mucous membrane of the uterine cavity.

Symptoms. These false conceptions are not easily recognized by the symptoms, which are like those of pregnancy, as, menstrual suppression, enlargement of the abdomen, as well as of the breasts, occasionally morning sickness, &c. But there will be no fetal movements, ballottement, nor beating of the fetal heart, unless pregnancy be complicated with the mole. As a general rule, however, but little can be determined until the uterus is about expelling the mass. Occasional hemorrhages, while these masses remain in the womb, are common; and profuse hemorrhage often occurs after the fourth or fifth month, and especially when they are being expelled.

Treatment. The principal danger in these morbid growths is from hemorrhage, which is sometimes very alarming. This may be checked by the tampon, application of cloths wet with cold water, or water and vinegar to the genitals; and if these fail, Ergot may be given to arouse the womb to contract, or a sponge-tent may be placed in the cervical canal for the same purpose. If the mass be large, and cannot be broken down by the finger, so as to admit of its easy expulsion, and the contractions of the uterus do not exert any influence upon it, the growth remaining stationary, it may become necessary to pass up the hand within the vagina and bring it away. Hemorrhage after its delivery, must be treated the same as hemorrhage after the birth of the child and placenta.

The uterus is liable to several abnormal conditions beside those heretofore referred to, but as some of these conditions are very obscure during life, their treatment being moreover very unsatisfactory, a mere passing notice of them is considered sufficient.

TUBERCULAR DEPOSIT in the uterus, may occur at any period from childhood to old age. It attacks the uterine mucous membrane, from which it may ultimately extend to the uterine proper tissue. It occurs in a miliary deposit, or in the form of small masses, converting the mucous tissue into a fissured, cheesy, tuberculous mass, of a dirty-yellow color, about a line and a half in thickness, and which can be readily scraped away with the back of a knife; after its removal, the lining membrane of the uterus will be found destroyed, and the uterine walls thickened. The cavity of the uterus is usually distended, and contains tubercular pus. The cervix, it is stated by Rokitansky, is never affected with this deposit, though there may be tubercular degeneration of the Fallopian tubes and of the ovaries, connected with it. It is difficult to detect this affection during life; it may be associated with leucorrhea, amenorrhea, or dysmenorrhea; and when the former is present, the vagina may exhibit spots of ulceration. It is a rare malady, may accompany tubercular disease of

other parts, and would, in such instances, probably yield to the constitutional measures employed to remove the latter.

ATROPHY of the Uterus is common to woman after the cessation of menstruation, and is then a normal condition. But it sometimes occurs previous to this period, and is, no doubt, a frequent cause of sterility. The whole uterus, but especially the cervix, will be small, anemic, dense and hard in structure, its mucous membrane thin and smooth, and the ovaries imperfectly developed; the upper extremity of the vagina becomes also diminished in size. On an examination the vagina will be found elongated, its upper extremity of conical shape, and the cervix hard, small, or completely lost. When this is discovered in females who have not yet passed the climacteric, or who are not too near this period, preparations of Iron, with alteratives, may be given internally, with means to determine to the pelvis, as stimulating vaginal injections, uterine tonics, warm hip baths, pediluvia, counter-irritants to sacrum, nutritious diet, &c.

HYDROMETRA, or Uterine Dropsy, are terms applied to an accumulation of water in the cavity of the womb, distending this organ, until, in some instances, it is suddenly evacuated, and the organ returns to its original unimpregnated state. There is some diversity of opinion among medical writers in relation to this disease; one class considering it a very grave disorder, usually associated with various unhealthy conditions of the uterus, and requiring a prompt evacuation of the water by canula or catheter passed through the os uteri into the uterine cavity, or, by coughing, sneezing, &c., with subsequent means to prevent its re-accumulation, as, diuretics, purgatives, alteratives, with good air, diet, exercise, &c. The other class deny its existence as a disease, and look upon it as a hydatid growth, which instead of being composed of numerous small cysts, consists of one large cyst which may gradually acquire an enormous size, producing symptoms due to the distended state of the uterus, and its pressure upon neighboring nerves and vessels; and which condition, when the removal of the fluid becomes necessary, may be relieved at once, by passing a

catheter through the os uteri into the uterine cavity, and piercing the cyst. I have never met with a case of it, but am inclined to doubt the existence of the affection, except as an enlarged cyst, in accordance with the opinion just referred to.

PHYSOMETRA, or Uterine Tympanites, is another difficulty, supposed to be owing to a gaseous accumulation within the cavity of the womb. Like the preceding difficulty, physicians are not agreed concerning it. Some consider it as a possible condition, others as an impossible one. I have never observed an instance of it unless the gaseous discharges which sometimes occur during the parturient period, under certain circumstances, are indications of it; nor can I believe in its existence; but should such a funny thing occur, as distension of the womb by gas secreted from the mucous membrane of this organ, it could at once be removed by the introduction of a catheter into the uterine cavity.

IMPERFORATE OS UTERI, is sometimes met with at the time of labor; in such cases, the presenting wall of the uterus at its anterior-inferior portion must have an artificial os uteri made in it, by carefully incising it, crucially, with a sharp-pointed bistoury, being very particular during the operation not to injure the presenting part of the fetus, the bladder nor the rectum. The forefinger, introduced into the vagina, will serve as a guide to conduct the bistoury to the proper place. If the cut be made too long, or the knife be entered too deeply, the injuries may accrue which are referred to above. After the aperture has been made, the natural contractions of the uterus will expel the child.

HERNIA OF THE UTERUS, or *Hysterocele*, is a rare disease, in which the uterus protrudes through the lower part of the linea alba, or, through the crural or the abdominal ring. The female should be kept in the recumbent position, the uterus replaced and kept from further displacement by means of bandages and trusses. When pregnancy is somewhat advanced, and the uterus has been gradually passing out of the ring, the woman must be kept quiet, and in the recumbent

position, and attempts be made to replace the organ, which may require considerable time and labor. And if strangulation occurs, Dr. Davis says "there should not be a moment's hesitation as to the obligation of performing the operation required in that case without delay." I have never seen a case of this kind of hernia.

INVERSION OF THE UTERUS, may occur at the time of labor, and may also be occasioned by polypus, see page 177. It is a grave accident to which parturient females are subject, though it is by no means a common one. The uterus may be partially or completely inverted. The reduction of the inverted organ must be effected as soon after the accident as possible; and may be accomplished by pressing the fingers firmly upon the fundus, forming a concavity in it, and pushing it on upward through the os uteri, until the whole organ is replaced. At the parturient period several circumstances may attend this accident, which are referred to in the author's work on Obstetrics, p. 478—485.

ANTEVERSION OF THE UTERUS.

Anteversion of the womb is by no means a common displacement, and rarely, if ever, occurs during pregnancy except at an early period. It may be gradually occasioned by pelvic tumors pressing upon the fundus and forcing it downward anteriorly; by relaxation of the ligaments, owing to previous pregnancies; or, it may come on by the exertion of a sudden force while the bladder is empty, as falls, violent and sudden muscular efforts, straining at stool, &c. It has also been occasioned by fecal accumulations in the rectum, persistent diarrhea, and by hypertrophy of the round ligaments resulting from previous inflammation.

Symptoms. The symptoms will not be so well marked in cases where the anteversion comes on slowly, as in those where it is of sudden occurrence; and sometimes the only symptoms complained of will be an uneasiness of the part, with more or less bearing down, and perhaps leucorrhea. There will be a sense of fulness, weight, uneasiness, and bearing down, with

pain in the hypogastric region and about the perineum, as well as in the back and thighs; a frequent desire to urinate, which may be effected with more or less difficulty; the symptoms are relieved on lying down, but much increased on assuming the erect posture, as in standing, walking, riding, &c. These symptoms will be more or less severe, according to the completeness of the version. Leucorrhea may accompany the accident, and there may be a deranged condition of the catamenial function.

But these symptoms can only lead us to suspect some disorder of the pelvic organs; a vaginal examination will confirm our suspicions and reveal the true character of the malady. The uterus will be felt blocking up the pelvic cavity, the fundus being tilted over anteriorly so as to press upon the neck of the bladder, while the cervix uteri is thrown backward so as to press upon the rectum, the long diameter of the uterus lying in an antero-posterior direction.

Discrimination. Anteversion of the uterus may be determined from *retroversion* by the fundus being thrown anteriorly instead of posteriorly; from *calculus in the bladder*, or *vaginal cystocele*, by passing a catheter into the bladder, and feeling the point of it in the supposed tumor by a finger introduced into the vagina; from *pelvic tumors*, by the presence of the os and cervix uteri; although, when these tumors produce the displacement, it may be difficult to detect them; and from an *ovarian tumor*, by its sensibility, by the presence of the os and cervix, and by its history. When the cervix cannot be readily reached with the finger, or the os uteri is pressed closely upon the sacrum, an examination per rectum may enable us to complete the diagnosis.

Treatment. In recent cases, empty the rectum, then placing the female on her back with the pelvis elevated, and the knees flexed upon the abdomen, gently raise the fundus to remove it from pressing upon the bladder, and, if necessary, pull down the cervix with one finger, or, if that cannot be done, with a hook, or bent Simpson's sound passed within the canal of the cervix. This accomplished, introduce an egg-shaped pessary, with the small end pointing upward. In all cases, any inflammatory symptoms, abrasion, or ulceration of

the os uteri, must first be removed by the means already named, before attempting to use the pessary. After the reduction of the uterus, the patient should remain in the recumbent position for some time, and be instructed to retain her urine as long as possible, in order to keep the bladder full, which will assist in retaining the fundus in its proper place; also to keep the bowels free by injections or mild laxatives. If leucorrhea be present, use astringent vaginal injections; and any relaxation of the vaginal walls, or menorrhagia, accompanying the difficulty, must be treated on general principles.

If the uterus cannot be readily reduced by the means above named, the patient may be placed with the front part of the thighs resting on the edge of a bed, while the shoulders rest on the floor; in this inclined position the intestines fall toward the diaphragm, and the pressure being thus removed from the womb, this organ will, in about twenty minutes, recover its natural position; or, should it fail to do so spontaneously its reduction can be more readily effected by manual interposition while the patient is in this inclined posture.

It must not be expected that the pessary will effect a cure; its only value is, that it sustains the uterus, thus giving the ligaments an opportunity to recover their tone, while at the same time it prevents the cervix from being thrown too far backward. The cure must be effected by all the means named heretofore for relaxed conditions of the vagina, and by the manipulations referred to hereafter in the treatment of prolapsus uteri. In old or obstinate cases, some preparations of Iron will be required internally, or Iron and Manganese, on account of the anemia and debility present. A congested, irritated, or otherwise diseased condition of the uterus, must be met by its appropriate treatment.

When the displacement comes on slowly and is due to hypertrophy of the round ligaments, the organ cannot be reduced at all; in this case, the pessary and other means alluded to above must be used, in connection with alteratives, as the Iodine Pill, Compound Syrup of Stillingia with Iodide of Potassium, &c. Counter-irritation to the pubis, and to the lumbo-sacral region, will be found useful, as Firing, Mustard, Croton Oil Liniment, &c., applying the counter-irritant to one

part, and then the other alternately. I do not believe, however, that the use of the Compound Tar Plaster, will be necessary in any case.

A persistent anteversion may ultimately occasion adhesion between the uterine fundus and the bladder, which condition is not easily to be remedied, if at all.

Anteflexion of the uterus occurs more frequently than anteversion; in this accident, the body of the uterus is bent forward upon the cervix, while the cervix remains in its natural situation; so that the uterus would somewhat assume the form of a small glass retort. The posterior wall of the uterus looks upward, while the anterior looks downward, in proportion to the degree of flexion. The symptoms do not differ from those of anteversion. This condition, like all uterine displacements, can only be determined by vaginal, and in some cases rectal, examination, but it is not always easy to detect. The vaginal examination should be made while the bladder is empty, and great care should be taken not to confound the flexed body of the uterus for a fibrous or an ovarian tumor. The tumor formed by anteflexion of the womb, will be found to commence just above the anterior part of the cervix, and the organ may be carefully traced from the cervix along to the tumor; while if the finger be passed along the posterior face of the cervix, no uterine enlargement can be felt. The absence of a pelvic tumor in front of the uterus may be determined by pressing the finger within the vagina upon one hand placed over the pubes, making the pressure at various points, to feel, as it were, a tumor, if one exist. Any doubt may be settled by the uterine sound, which being carefully passed within the cavity of the womb, and gently turned round, will cause the flexed uterine body to disappear,—but which tumor will return again as soon as the sound is removed, (*See page* 93.) From the mobility of the uterus while examining with the sound, some idea may also be formed as to whether the flexion be owing to a tumor pressing upon the posterior wall of the womb. Sometimes, however, the sound will not enter the uterine cavity, but no force must be employed at any time to effect its introduction; we must then dispense with its aid, and remain contented with a careful manual exploration. Sterility usually accompanies

this difficulty. The treatment of it will be the same as for anteversion.

In the advanced stage of pregnancy, an *anterior obliquity of the uterus* sometimes occurs, in which the fundus falls forward, while the os uteri looks backward in the neighborhood of the promontory of the sacrum, and which has frequently given cause to suppose the uterus to have become imperforate. As this interferes with the progress of labor, we must force down the anterior lip of the os uteri, which will be found frequently tumefied and undilatable; or, when the pains are on, the patient lying on her back, press up that portion of the os uteri lying between the head and the pubes, and when that is accomplished, push up the posterior portion lying between the head and sacrum, and as soon as this yields, the difficulty is at once conquered.

RETROVERSION OF THE UTERUS.

Retroversion of the Uterus is exactly the reverse of anteversion, and is a much more frequent accident; it is occasioned by a relaxed condition of the round ligaments. These ligaments are so attached to the fundus of the womb and the pelvis, as to prevent the former from falling downward and backward to any extent, unless they are very much relaxed. This relaxation may be produced by several causes; a very common one is a retention of urine, which distending the bladder, this organ presses upon the fundus and carries it downward and backward, placing the round ligaments on the stretch; a daily persistence in this retention, will soon cause relaxation of the elongated ligaments, and consequent retroversion. Females, in traveling, are especially liable to this accident, from a neglect to empty the bladder; this organ becomes enlarged from being filled with long retained urine, when a loud laugh, a sneeze, a spring from a coach or car, or any sudden jar, &c., will be sufficient to finish the mischief by retroverting the womb; and it is more certain to occur if the pelvis be large, and the woman be two or three months advanced in pregnancy. Retroversion may come on suddenly, but more frequently manifests itself by degrees.

Symptoms. There will be pains low down in the abdomen, and in the lumbo-sacral region, increased upon motion. The urine will be voided with difficulty, or not passed at all; there will be constipation, with tenesmus, and difficulty in defecating. Sometimes, the urine can be passed without any trouble. The symptoms, in other respects, will very much resemble those of anteversion.

A vaginal examination is always necessary; the fundus of the uterus will be found in the hollow of the sacrum, while the cervix will be toward the pubic arch, and sometimes above it; perhaps, pressing upon the urethra. Care must be taken to distinguish this affection from anteversion, pelvic tumors, &c.

Treatment. In recent cases, place the female on her left side, with her knees well flexed toward the abdomen; or, she may be placed on her face, and then have the knees drawn up, until the thighs are perpendicular, thus having the pelvis elevated as high as possible; then introduce one or two fingers into the vagina, and gently but steadily press the fundus upward and backward, until it escapes above the promontory of the sacrum. When this is accomplished, the cervix will be found in its natural situation. Direct the female, after the reduction, to evacuate the bladder frequently, and not permit it, at any time, to become again distended with urine. If it can be done, it is always better to evacuate the bladder, previous to replacing the uterus; also to empty the rectum by injection, if it contain an accumulation of feces.

If, after the reduction, there remains a tendency in the womb to fall backward and again retrovert, have the patient wear a Blundell's pessary; being careful to previously remove any irritation, inflammation, abrasion, or ulceration, &c., of the womb, which may exist. And to secure contraction of the ligaments, and give tone to the vagina and surrounding parts, make use of the measures recommended for anteversion of the uterus, as chalybeates, cold douches, vaginal injections, regularity of bowels, alteratives, counter-irritants, manipulations, &c. When adhesions form from a long-continued retroversion of the uterus, the organ remains immovable, and no cure can be effected.

Retroversion, *occurring during pregnancy*, is a serious matter for both mother and child, and the danger increases in proportion to the advance of the pregnancy. When there are reasons to suspect this displacement in a pregnant woman, as pain in the back, costiveness, retention of urine, &c., a vaginal examination must be made immediately, and if the womb be found retroverted, it must be returned to its natural situation. Sometimes, however, it will not rest thus, but will again fall over, and continue to do so, notwithstanding the reduction is repeated many times, and the bladder evacuated every three or four hours. It will frequently be a good method to place the female on her face, then elevate the pelvis, with the hips perpendicular, and direct her to continue in this position, for an hour or longer, at a time, or as long as she can; and repeat this several times a day. Not unfrequently there will be considerable difficulty in passing the catheter into the bladder, which may require the physician to free the urethra by pressing the cervix backward. Usually, a persistence in these efforts will ultimately overcome the difficulty; but if not, the woman's life may be lost if the womb be permitted to continue its enlargement, and, therefore, it will become imperatively necessary to cause an abortion.

Dr. Ashwell states that he has "so great a dread of the continuance of retroversion during pregnancy, that he would not hesitate to introduce the whole hand into the rectum, and exert very considerable power" to effect its reduction.

Dr. Bond, of Philadelphia, has invented an instrument for restoring the uterus to its normal position, especially when the fundus cannot be reached with the fingers. The surgical instrument makers, Mr. Jno. Rorer, and Mr. Shively, of the same place, have, likewise, devised instruments for a similar purpose. The design of each of these instruments is, to push the fundus upward into its proper position. Any local or general irritation that may follow a reduction of the uterus, must be treated on general principles.

Retroflexion of the Uterus, is a bent condition of the womb upon its cervix, similar to that of anteflexion, but differing from it in the uterine tumor being found on the posterior face of the cervix, while no enlargement can be felt on its anterior

face. The fundus is bent over into the hollow of the sacrum, while the cervix and os uteri are nearly in their normal position. The same rules, with the above exception, may be adopted for its diagnosis, as named for anteversion; and the treatment will be similar to that named for retroversion.

Sims's Uterine Elevator will be found a very useful instrument for overcoming these malpositions of the uterus, especially on account of its freedom from danger of perforating the uterus. It consists of a handle and shaft, at the uterine end of the latter of which is a revolving ball about three-fourths of an inch in diameter, and having its axis at right angles with that of the shaft. The ball has a series of apertures around it, in a line with the shaft, into one of which the uterine stem is placed. When the stem is introduced into the uterus, by means of a slide or spiral spring, a rod is made to pass from the shaft into that aperture in the ball facing the rod, by which means the uterine stem is firmly secured at any angle which may be required. By withdrawing the rod from its aperture, the stem may be so moved as to carry the uterus in any position required. The instrument and the manner of using it are explained in the *American Journal of the Medical Sciences, January*, 1858, *p.* 132.

PROLAPSUS UTERI.

Prolapsus Uteri, or "Falling of the Womb," is a very common malady among females, generally occasioning much suffering and distress. Married women are more especially subject to it, though it is by no means uncommon among the unmarried. It is always a tedious affection to cure, often requiring for this purpose, even in the milder cases, a period of several months. Persons of a strong constitution are more readily cured than those who are feeble or of strumous diathesis; and young females are likewise more susceptible to treatment, than those who have passed the turn of life, with whom it frequently becomes an incurable malady.

In a healthy woman, the unimpregnated uterus lies at the upper extremity of the vagina, with the os uteri about four inches distant from the vaginal orifice, and looking toward the

sacrum; though this distance will be found to vary according to the depth of the pelvis. The direction assumed by the long diameter of the uterus is in correspondence with that of the axis of the superior strait. The slightest descent from the normal situation of the womb, will in many females give rise to acute pain and suffering, which may be instantly relieved by the physician slightly elevating the organ on the end of his finger; but which distress will return again, as soon as the finger is withdrawn. While, on the other hand, there are females who experience no great inconvenience, even when the organ protrudes beyond the vulva.

Prolapse of the womb may be divided into two varieties: 1, That in which the organ remains within the pelvic cavity, or *imperfect prolapsus;* and, 2, That in which the organ protrudes externally, or *perfect prolapsus*, often termed *procidentia uteri.* In the first variety there may be a slight descent of the uterus, the os uteri still looking toward the sacrum, and the long diameter of the organ remaining in the natural direction; or the descent may be so great as to bring the uterus to the central portion of the vagina, the os uteri looking downward in the direction of the pelvic axis, the long diameter of the organ being, when the woman is standing, in a vertical position; or, the organ may rest upon the perineum, its orifice looking forward, and its long diameter corresponding to the axis of the inferior strait. These conditions will be found to vary in degree, the long diameter of the uterus generally assuming the direction of the axis of that part of the cavity of the pelvis to which it has fallen; and sometimes there will be found such a backward or forward inclination of the fundus, as to lead the practitioner to suspect an anteversion or a retroversion. Indeed, there is, in all instances of prolapsus uteri, a strong disposition of the fundus to fall, more especially, backward into the hollow of the sacrum, and from which position it is not always easily disengaged.

Causes. The pathological causes of this uterine displacement are, relaxation of the vaginal walls, and of the levator ani muscles, which muscles act in antagonism to the diaphragm and muscles of the abdomen, keeping the vagina, uterus, and perineum in a normally elevated position. The stretching and

relaxation of the uterine ligaments is only a secondary effect, caused by the relaxed condition of the vagina, which not only drags the uterus downward, but likewise its ligaments, and which descent is further aided by the pressure of the intestines above the womb, and the straining efforts during an evacuation from the bowels.

Among the predisposing causes, the most common is, repeated child-bearings, which gradually weaken the tone of the vaginal walls and muscles subservient to the support of the organs involved in the prolapse, at the same time increasing the diameter of the vaginal canal throughout its whole extent. Other causes, however, may effect the same result, as standing or walking too soon after a miscarriage or delivery, before all the parts have sufficiently recovered their normal condition; severe coughing, diarrhea, or exercise, immediately after labor; repeated hemorrhages; menorrhagia; masturbation; excessive coition; large pelvis; short vagina; leucorrhea; violent efforts at lifting; severe vomiting; manual or instrumental efforts at delivery; &c., &c.

It may be occasioned among unmarried females by long continued leucorrhea or menorrhagia; violent labor, especially during menstruation; heavy falls upon the nates and thighs, in a sitting position; masturbation; persistent constipation; occupations requiring sitting constantly, and more especially when in a bent position; constant rectal irritation; violent and sudden exertions; and I have met with instances where it followed peritonitis, typhoid fever, and other acute affections when very severe and of long duration. And when unmarried women are afflicted with prolapsus uteri, it is not so easy to effect a cure as it is among those who have married, more especially on account of the greater degree of delicacy connected with their situation.

Symptoms. The symptoms of prolapsus uteri vary both in number and severity, from a hardly noticeable inconvenience to much pain and distress; the local symptoms being due to the change effected in the relative situation of the pelvic organs and of the abdominal viscera, as well as to the diseased conditions under which the uterus and vagina may be laboring, at the time of the prolapsus; and the general symptoms, to sym-

pathetic action of distant organs more or less intimately connected with the uterus.

The local symptoms are, a feeling of fulness in the pelvis; a weight and "bearing down" in the parts, with a sensation of dragging which extends from the navel to the loins, or, from the sides to the groins; the bearing down is often so severe as to occasion a sensation as if the pelvic organs would pass out externally; more or less severe pain in the back, which may extend round into the groins, or, which, in some cases, is confined to the uterine region, with a weakness or dragging sensation in the back; these pains are frequently increased when the patient sits upright, stands in an erect position, walks, attempts to lift, or, upon straining at stool, so that she will be obliged to remain stationary or assume a stooping posture, and, not unfrequently, from this cause, it will interfere with walking,—sometimes it will be impossible for the patient to walk at all, not only from pain, but from an accompanying state of almost paralytic debility in the back and lower limbs—and such cases have been frequently incorrectly treated, with all the severer plans which have been advised, for an imaginary spinal irritation. The bowels are constipated, with occasional attacks of diarrhea, especially when the fundus presses upon the rectum; there may be a constant desire to evacuate the bladder, with difficulty, or considerable heat in urinating; and the more severe symptoms are usually relieved upon the patient's assuming the recumbent position. In connection with these symptoms, there may be a congested condition of the womb, vaginal or uterine leucorrhea, amenorrhea, dysmenorrhea, menorrhagia, &c., which tend to increase the sufferings and discomforts of the patient.

The color of the os uteri is a delicate pink, but when it protrudes, and is exposed to the action of the atmosphere, it becomes deep red, or brown; the vaginal mucous membrane covering it becomes dry, and when the organ is fully protruded, ulcerations and even sloughing are liable to occur, especially on the parts exposed to the friction of the thighs, &c., as well as to the action of urine passing over it, and the os uteri is frequently excoriated or ulcerated, owing to the irritations to which it is exposed.

The sympathetic symptoms are derangement of the digestive organs, impaired appetite, dyspeptic symptoms, flatulency, headache, great debility, palpitation of the heart, nervous irritability, depression of spirits, &c.; indeed, the sympathetic or general symptoms are so varied and numerous, that they may deceive the practitioner, and be mistaken for indications of disease of other organs, as nephritis, hepatitis, splenitis, phthisis, &c.

An examination per vaginam will enable us to detect the prolapsus and its extent, as well as the degree of relaxation of the vaginal walls.

Discrimination. Prolapsus of the womb may always be known by the presence of the os uteri at the lower part of the tumor, and may be determined from *polypus*, and *pelvic tumors*, when there is a doubt as to the true character of the affection, by the gentle introduction of a small bougie within the orifice supposed to be the os uteri.

It may be known from *retroversion*, in which the os uteri is higher than natural and looking toward the pubis, and is, sometimes, beyond reach; while the fundus is on a level with, or below, the cervix. And from *vaginal rectocele*, or *cystocele*, by the softer feel of these tumors, and the general symptoms and conditions, heretofore named, discovered by a careful examination.

Treatment. Ordinarily, when prolapsus uteri is not interfered with by treatment, it continues to increase in severity, occasionally resulting in death from excessive exhaustion due to the profuse discharges accompanying it, or, to the inflammation of the parts. More generally, however, the patient continues to live, her condition being very painful and harassing, until death ensues from some other cause. And in cases where treatment is pursued, it must be recollected that the difficulty is not easily removed, often requiring not only months but several years of persevering management; and some cases are absolutely incurable.

In prolapsus unassociated with any abnormal state of the parts, except the vaginal relaxation, the object of treatment must be to overcome this condition, and restore the walls of

the vagina to their normal tone; this effected, the prolapsus of the uterus will be cured.

In recent cases of uterine prolapsus, and especially when the degree of displacement is slight, the influence of agents upon the vaginal mucous membrane, aided by rest in the recumbent position, and regularity of the bowels, will, eventually, effect a cure. By regularity of the bowels is not meant purgation, for both cathartics and emetics are inadmissible in this affection,—but the rectum should be daily evacuated either by laxative injections, or mild aperients, as, a few grains of Rhubarb, repeated three or four times a day. The agents employed for local application, may be vaginal injections of cold water, or astringent infusions, as of White Oak bark, Geranium root, Beth root, Marsh Rosemary, &c., or a solution of Alum and Tannic Acid. Indeed, any of the injections named under the treatment of Uterine, or Vaginal Leucorrhea, may be employed. Cold water may likewise be advantageously applied to the abdomen, back, and genitals, by a sponge, or by bath. An inflamed condition of the vaginal walls, or of the uterus, will be aggravated by the use of astringents; hence, when any inflammation is present, it must first be reduced before employing them. And when congestion of the uterus, leucorrhea, with abrasion or ulceration of the cervix, is present, these must be treated the same as recommended under their respective heads.

After a cure of prolapsus is effected, the patient should be careful for many subsequent months, to strictly keep at rest in a recumbent posture during each menstrual term, as any irritation, at this time, or injury from severe or sudden exercise, will be apt to induce a return of the displacement. And whenever pain or irritation is present at such periods, sedatives and anodynes must be used to relieve them, the same as named under the treatment of Acute Vaginitis, Congestion of the Uterus, &c.

In several cases of prolapsus uteri, some of which were attended with very distressing symptoms, I have known the application of electro-galvanism, or magneto-electricity, to be essentially beneficial. One of the buttons may be applied upon the small of the back, or along the lumbar vertebræ, and the other to the uterus, and upper part of the vagina, having it so

insulated that none of the galvanic influence will be lost upon the lower extremity of the vagina; and this should be alternated with an application of the external button to the perineum, so as to strengthen the muscles in that region; the buttons may also be placed, one upon the perineum, the other upon the lumbo-sacral portion of the spinal column, or upon the abdomen just above the pubis.

When prolapsus of the womb is of long standing, or the prolapsus is very great, it will become necessary in conjunction with the preceding means to give artificial support to the fallen organ by means of a pessary. I am aware that there are many who are strongly opposed to an instrument of this kind, but on what grounds I cannot conceive. A pessary is used, not to accomplish a cure, for I much doubt whether such would be a result, but to place the relaxed vaginal walls on the stretch, and at the same time to hold up the uterus; this relieves the ligaments from the dragging upon them, by the prolapsed womb and vagina, and permits the parts to recover their normal tone and vigor, when under proper treatment. It also relieves the female of the greater part of her sufferings, and, in most instances, gives her the ability to walk and take gentle exercise in the open air, which is a necessary and important part of the treatment. I am disposed to believe that much of the opposition to pessaries has arisen from an observation of their consequences when improperly employed; for there are certain conditions in which the pessary is contra-indicated, its use being followed not only by an augmentation of all the painful or annoying symptoms, but also by much constitutional suffering. A pessary may be used in slight degrees of prolapsus when much pain or distress is present; and will be of service in all cases of long standing, or of considerable prolapse, when these are not due to polypus or other uterine disease, and when not associated with congested, irritable, inflamed, or ulcerated cervix or vagina. These conditions, when present, must be treated the same as heretofore named, under their respective heads, without regard to the prolapsus of the womb, which organ can only be supported by a pessary, after such of the several states referred to above as may be present, have been cured. Then, and not till then, must the pessary

be used; refraining, however, from its employment the instant it occasions pain, soreness, irritation, or slight bleeding. When painful menstruation is present, treat as recommended under Dysmenorrhea, and omit the pesssary from the commencement of the pain until menstruation, as well as all soreness, has ceased; but, should the pessary be found to afford relief when these symptoms are present, its use may be continued. Under ordinary circumstances, however, no pain, soreness or irritation being present, the pessary should continue to be worn even during the presence of the catamenia.

A pessary should be light, smooth, and not too large, lest it dilate the vagina, produce irritation by its pressure, and occasion vaginal discharges, or, perhaps, ulceration; nor should it interfere with the evacuations of the bladder and rectum; it should be cleansed always after its withdrawal from the vagina.

There are various kinds and forms of pessaries, made of sponge, wood, ivory, gum elastic, vulcanized caoutchouc, glass, and silver coated with gold. Among these I prefer the latter: and the one known as Blundell's stem pessary, though costly, will be found adapted to nearly all cases; one great advantage attending its employment is, that it can readily be removed at night, for when the patient is in a horizontal position a pessary is not so necessary. The female can also introduce it herself, and thus be spared the mortification of having a physician to manipulate every time it is to be placed within the vagina. I am in hopes that some of our manufacturers of gutta-percha or caoutchouc articles will make a pessary to be applied to the silver stem, as a substitute for the gilt one just referred to, and thus materially reduce its expense. By means of a screw the pessary can be adjusted to any height. To introduce it, warm and oil it, and carefully and gradually pass it into the vagina as high up as possible. The instrument can be held in its place by means of pieces of tape, fastened to each end of the cross bar at the lower end of the stem, the upper ends of these pieces of tape being attached both before and behind, to a bandage passing around the waist or hips. To support the perineum and aid in imparting tonicity to it and the surrounding structure, I have been in the habit of attach-

ing a firm pad upon that part of the cross-piece immediately below the perineum; and this perineal pad will be found a valuable addition to the instrument.

A pessary should never be used with the virgin female, unless the symptoms are so severe as to render its employment absolutely necessary; and the greatest caution should be observed in deciding this matter.

The pessary must be removed every night, and the patient should accustom herself to evacuate the bowels every morning early, previous to its re-introduction. During the night an egg-shaped pessary made of soft sponge, or, a roll of lint, may be worn in the vagina, having previously moistened it thoroughly with the Solution of Strychnia, No. 5, on page 162, or, the Solution of Quinia, on page 162, or such other preparation as the practitioner may prefer, to give tone to the relaxed vaginal walls, to relieve pain and irritation, or to mitigate existing leucorrhea. Great care must be taken to keep these sponge pessaries properly cleansed, thoroughly washing them every day. The introduction of any foreign body into the vagina sometimes causes a contraction of this organ, which may or may not be accompanied with a cramp-like pain; unless it be very severe, no treatment will be required; it will gradually pass away, as the part becomes accustomed to the presence of the substance; when severe, a solution of Poppy flowers, or of Lobelia and Stramonium leaves, may be placed into the vagina, upon lint moistened with it.

During the day, when vaginal injections are used, the stem pessary may be removed for the time, replacing it after having finished the injection. When the injections are used, the female should lie upon her back with the hips highly elevated; or else, she may rest on her shoulder and knees, with the hips well raised, and the knees perpendicular, and this will be an excellent position to assume several times a day, while wearing the pessary, remaining thus ten or twenty minutes each time. The manipulations, hereafter described, will be found a very important part of the treatment, and should not be omitted.

I have sometimes met with cases in which the uterus appeared to be so firmly fixed down upon the rectum, that the fingers could not move it from its position; in such cases, I

have succeeded in moving it, by passing a finger in the rectum and dislodging the fallen organ; or, by gently introducing Simpson's uterine sound into the uterus, and then carefully elevating it from its situation. This may occasion a slight degree of pain, never severe, if carefully effected. After the removal of the uterus from its fixed position, place the patient, as heretofore named, on her shoulders and knees with the hips elevated, and while in this position introduce the stem pessary. Simpson's sound, however, is attended with some danger, for an improper amount or direction of force applied to it by the practitioner, or a sudden movement on the part of the patient, may cause it to seriously injure the uterus, if not pass through its walls; on this account, Sims's uterine elevator will be the better instrument to employ for the preceding purpose. See page 214.

When the womb has passed through the external parts, the whole surface of the tumor must be oiled, and, with gentle, but firm pressure, the hand or fingers should replace the organ within the vagina, subsequently maintaining it there by a pessary, if the condition of the parts will admit; if not, as for instance, when ulceration is present, keep the patient in a recumbent position till the ulceration is cured, and prevent the uterus from again protruding externally by means of a T bandage, with a cushion placed between the vulva and the cross straps of the bandage. When much pain accompanies the attempts at replacement, or when inflammation is present, these must first be palliated or removed, before attempting to carry the womb within the pelvic cavity. When inflammation is present it may be known by the small, quick pulse, thirst, white tongue, abdominal tenderness, and nausea or vomiting which are generally present; it should be treated by sedatives and anodynes internally, and the application to the external tumor of cloths wet with tepid water, or tepid infusions of Hops, Hops and Lobelia, Lobelia and Stramonium leaves, &c., together with absolute quiet and rest in the horizontal position. And the continued and persevering use of these local applications, will likewise be found useful in rendering reducible most of those cases which, from the enlargement of the uterus, appear to be insusceptible of reduction.

Ulcerations occasioned by the exposed condition of the protruding organ, may be cured by simple balsamic or emollient ointments; and when the replacement is accomplished and the uterus supported and kept within the vagina, they heal without treatment. In performing the reduction, the female may lie on her back, with the thighs separated, the hips considerably elevated, and the limbs flexed toward the abdomen; and should not strain or bear down while the womb is being replaced. The best position, however, is the one so frequently referred to, on the shoulders and knees, with the hips well raised; in this posture the abdominal viscera tend toward the diaphragm, all pressure is thereby removed from the pelvic organs, and the patient cannot bear down.

If, during the treatment, pregnancy should occur, there will be no occasion for the pessary after the third month; and by a careful and judicious management after delivery, not permitting the patient to leave her bed too early, in most cases a return of the prolapsus may be prevented. But pregnancy, and treatment after delivery, does not always cure prolapsus of the womb.

The internal remedial treatment of prolapsus uteri, as well as the diet, regimen, hygiene, &c., will be similar to that named under Vaginal, and Uterine Leucorrhea.

There is a method of treating prolapse of the womb, pursued at some of the Water-cure establishments in connection with rigid diet and their usual water processes, which has frequently effected much benefit. The high sounding term, "Motorpathy," has been applied to it, and as a further claptrap to attract the attention of suffering females, the whole thing has been mystified by explaining it as "a system of curing disease by statuminating vitalizing motion"!!! That some good has been effected by this "statuminating" process, cannot be doubted,—but entirely too much has been claimed for it. One great objection to this mode of cure, as pursued at the Water establishments, is, that the system of treatment, diet, &c., is entirely too rigid. True, the patients are apparently benefitted, but upon returning home to their ordinary modes of living, their prolapsus, in many instances, gradually returns. Yet, the plan, which is a species of kinesipathy, con-

sisting of certain movements, when employed as an aid to the treatment heretofore recommended, will be found very advantageous. I will briefly make known some of the more common "Motorpathic" manipulations, the mode of action of which will be readily understood by the professional reader, who will, no doubt, be able to improve upon them, or adapt them to the peculiar circumstances attending each individual case under his management. In practice, it will be found that some of the manœuvres may safely be dispensed with. The best time for manipulating will be in the morning, after the bowels and bladder have been evacuated; and during the process the pessary must be removed. At the Water-cure establishments, the time required for a patient to pass through all the manœuvres varies from twenty to forty minutes, and in no instance is any exposure of the person necessary.

The manipulations may be divided into, 1, Those intended more especially to give tone to the abdominal muscles, uterine ligaments, &c.; 2, Those designed to invigorate the levator ani and perineal muscles; and 3, Those which impart strength and health to the general system.

1. *To strengthen the abdominal muscles, uterine ligaments, &c.*

a. Place the patient upon her back in a slightly inclined position, having the pelvis elevated; then, with the thumbs, press upon various parts of the abdomen, impelling the viscera upward toward the diaphragm, with as much force as the patient can bear. This is to be followed by repeated manœuvres with the base of the hand, (its metacarpal portion) still carrying the abdominal viscera toward the diaphragm.

b. Sitting beside the patient, the abdomen is to be pressed upon with the base of the hand, so as to direct its contents from side to side, and which, if done with sufficient force, will roll the patient from the operator. Then, still sitting by the patient's side, the bowels are to be pulled upward, as it were, by the fingers,—manipulating more especially about the hypogastric region. N. B. In some of the Water-cure establishments, these manipulations are recommended to be performed previous to replacing the uterus, as well as on subsequent occasions.

c. Having the patient seated in a chair, the operator stands

behind her, and with both hands grasps the abdomen just above the pubis, and with considerable power draws upward, as if he would carry the intestines in that direction. This is to be continued for several minutes.

d. The patient standing erect, the operator places a knee upon the back, just below the shoulder, and with both hands draws the shoulders backward with considerable force, the patient at the same time taking deep inspirations to fill the chest, which she strikes upon in various parts with her closed hands.

e. Placing one foot upon a chair or stool, seize the patient by the shoulders, and bend her backward over the knee as far as she can bear then holding her thus with one hand, with the base of the other forcibly impel the abdominal viscera toward the diaphragm. In an advanced stage of the treatment, with the knee placed in the small of the back, the same manœuvre may be repeated three or four times, carrying the patient each time so far backward as to raise her feet from off the floor.

f. Standing behind the patient, the operator with both hands draws the shoulders, chest, and bowels backward ; the latter also upward. Then, if necessary, having the patient standing against a wall, press upon and knead the abdomen as strongly as can be borne.

I am disposed to believe that by imparting strength to the abdominal muscles only, we increase the prolapsus, by causing the muscles to act upon the intestines and press them down upon the pelvic viscera; and this is undoubtedly one principal reason why most of the Motorpathic Water-cure patients find a return of their prolapsus shortly after reaching their homes. It is not only necessary, therefore, to give tone to the muscles of the abdomen, &c., but likewise to their antagonistic pelvic muscles, if I may so call them, as the levator ani, &c., and which may be accomplished by the following means :—

2. *To invigorate the levator ani muscles, and adjacent parts.* Place the patient on her shoulders and knees, with the hips elevated and the knees perpendicular; then with the thumbs make deep and firm pressure upon the perineum and surrounding portion of the nates, kneading them thus for five or ten minutes each time. Afterward, with the palm of the hand

give a series of taps in quick succession over the sacrum, increasing their force as can be borne, and continuing it until a glow of heat is produced, the patient still maintaining the above position.

3. *To give tone to the general system.* The patient must walk in the open air, increasing the distance as her strength will admit. Sudden or violent exercise must not be permitted. In unpleasant weather, the exercise must be pursued in-doors, the patient going up and down a flight of stairs repeatedly. Other exercises should be taken to develop the muscles of the limbs and of the chest. In my own practice, while the female is thus exercising, I always, when not contra-indicated, have her wear the pessary heretofore referred to, not with any curable view, but for the purpose of sustaining the uterus and vaginal walls, thus permitting these organs to recover their normal tone and condition more readily than when the pessary is dispensed with.

The principal mysteries of "Motorpathy" are contained in the above, conjoined with a most abstemious diet, and the usual Water-cure processes, much of which I deem wholly unnecessary.

Of late years an operation, termed *episoraphie*, has been advised for the purpose of effecting permanent cures of prolapsus uteri; it has been performed in different ways by several eminent surgeons, and in many instances with success. The points gained by the operation are a diminution of the vaginal orifice and elongation of the perineum, with a view to prevent the womb from protruding externally, and at the same time give an increased perineal support to the pelvic organs. In some instances, however, though the above points are gained, and the uterus is kept within the pelvis, the other evils of the prolapse remain, and, from the contracted condition of the parts, are rendered less amenable to those measures which may afford relief, than they were previous to the operation. It is considered better not to operate until the woman has past beyond the period of child-bearing, for self-evident reasons; though it has been done, in a few instances, previous to this period, and the females subsequently became pregnant, and safely delivered without a rupture of the artificially closed

parts,—these, however, may be considered as instances of "good luck," and not of "good nor judicious management." Women who are somewhat advanced in years, are said to receive less benefit from the operation, than when performed within ten or twelve years after the "turn of life."

The operation somewhat resembles that named for lacerated perineum; a piece is removed from the center of the perineum, the mucous membrane of the recto-vaginal septum is dissected back, and the edges brought together by sutures. When the uterus protrudes externally, it is advised to contract the caliber of the vagina by dissecting off a portion of mucous membrane anteriorly, posteriorly, and laterally, and introducing sutures, similar to the operation for prolapse of the vagina, on page 119.

If the uterus or neighboring organs are diseased, no operation should be attempted until the disease has been cured. And during its performance the operator must be exceedingly careful not to wound the bladder, nor open the peritoneum. The after treatment will be the same as recommended in the operations for Lacerated Perineum, Prolapse of the Vagina, &c.

INFLAMMATION OF THE FALLOPIAN TUBES, &c.

The Fallopian tubes are subject to various abnormal conditions, the most of which are impossible to detect, especially, at their commencement; they are inflammation, ulceration, displacements, obliteration, rupture, scirrhus, hydatids, or, dropsy of the tubes. These maladies are frequently associated with similar states of the uterus and ovaries, and are apt to be confounded with them.

INFLAMMATION OF THE TUBES, whether acute or chronic, is a disease very difficult to diagnosticate correctly. The *acute* form may be associated with uterine or peritoneal inflammation, may occur independently, and may likewise be occasioned by a tedious labor, lochial, or menstrual suppression, the abuse of emmenagogues, injuries received in their region. &c.

The *symptoms* are, a sensation of heat, and a pungent or throbbing pain, which is deeply seated in the iliac region, and which may spread to the groins and thighs. Pressure upon the abdomen will produce pain, which will be more or less severe according to the degree of inflammation and its complication with adjacent organs. The pulse is hard and quick, with other constitutional symptoms common to pelvic inflammatory attacks, as thirst, nausea or vomiting, difficult urination and defecation, &c. Upon examining over the region of the pain, a firm, round, very sensitive swelling will be felt. Acute inflammation of the tubes may terminate by resolution in from eight to twelve days; or, by suppuration, in from ten to fifteen days; or, it may turn into the chronic form; or terminate in death in four or five days.

Pathology. One or both tubes will be found more or less dilated, red, vascular, and their coats thickened; the mucous membrane swollen and of a purplish or dark color; the canal containing a viscous, whitish, yellowish, or slate-colored muco-purulent substance, and sometimes albuminous exudations on its surface; pus will be found in the walls of the tubes; and the fimbriated extremities will be softened and of a deep red color. Sometimes the uterine orifice of the tubes will be found occluded, and the fimbriæ may adhere to some of the adjacent tissues and be closed up, or they may be entirely destroyed.

Treatment. The treatment for acute inflammation of the Fallopian tubes will be similar to that for Acute Inflammation of the Uterus, which see on page 148. See also treatment for Puerperal Fever, King's Obstetrics, pages 582—590.

Chronic Inflammation of the Tubes is difficult of diagnosis; there will be an obscure set of *symptoms*, as a constant or periodical deep seated dull pain in the iliac region, which may be increased by exertion, urination, or defecation. The bowels may be regular, but more commonly constipated and alternating with diarrhea. If an abscess be formed there will be emaciation, irritative fever, sometimes nausea or vomiting, purulent diarrhea, and finally, dissolution. The *pathological appearances* will be similar to those present in the acute form

of the disease; and the *treatment* will be the same as named for Chronic Inflammation of the Uterus, on page 151.

OBLITERATION OF THE CANAL OF THE TUBES may occur as a consequence of either acute or chronic inflammation of these organs, thereby producing sterility; or, if the canal be merely contracted, it may, by preventing the advance of the ovum to the uterus, give rise to a tubar or ventral pregnancy, and death from subsequent peritonitis or hemorrhage. Occasionally when the Fallopian canals are imperforate, there will be an accumulation in them of the fluids of the parts, distending and finally rupturing them. All that can be done in this, as well as in the difficulties hereafter named, will be to treat upon general principles, and palliate any painful or disagreeable symptoms which may be presented.

DISPLACEMENT OF THE TUBES may occur from a change in the position of the uterus, as, in prolapsus, inversion, &c.; and, sometimes, from ovarian enlargement, &c. A removal of the cause, when this can be accomplished, will be followed by a reduction of the displacement.

RUPTURE OF THE TUBES rarely occurs. It may be owing to tubar pregnancy, in which the tube gives way about the third or fourth month, and is accompanied with symptoms of collapse and death. It may also be caused by an accumulation of the menstrual fluid, pus, serum, &c. The appropriate treatment would be that named for Acute Inflammation of the Womb; but it generally proves fatal in a short time after the accident.

The Fallopian tubes are sometimes attacked with *non-malignant* or *malignant tumors*, *cysts*, *dropsy*, &c., but the symptoms in these several affections are too obscure to warrant me in naming any specific ones. Palpation, together with careful examinations per vaginam and rectum, may, sometimes, throw some light upon the nature of the disease. The *treatment* will be on general principles, tonics, alteratives, hydragogues, diuretics, attention to the skin, and to the excretions, &c., as

may be indicated. However, when these diseases do occur, as a general rule, palliative measures will be found the most beneficial. It is fortunate for the sex as well as for the practitioner that these are not common maladies.

INFLAMMATION OF THE OVARIES.

The Ovaries are not so subject to attacks of disease as the uterus, probably owing to their peculiar structure, and freedom from exposure to morbid or irritating discharges, as well as from direct mechanical injuries. They are, however, liable to the same maladies as the tubes and womb, some of which are exceedingly rare. The more common affections of the ovaries only will be noticed.

Acute Inflammation of the Ovaries, or Ovaritis, may occur in the unimpregnated state, but is more generally associated with inflammation of other organs of the pelvis, following an abortion or delivery. More commonly only one ovary is affected at the same time. Menstruation is usually suspended, if the attack occurs during the monthly period. The same *causes* which produce inflammation of the uterus, tubes, or peritoneum, may give rise to ovaritis. The local and constitutional *symptoms* will be similar to those of inflammation of the tubes, unless there is an extension of the inflammation, when there will be additional corresponding symptoms; thus, if the disease spread to the bladder, there will be a frequent desire to pass water, with scalding and pain during urination; if it extend to the peritoneum the pain in the abdomen will be more severe, as well as the general symptoms; and there will sometimes be a painful bearing down sensation in the pelvis, with a desire to evacuate the rectum, almost amounting to a tenesmus. A vaginal examination will not throw any light upon the disease; but the finger introduced into the rectum can, generally, be readily carried to the side of the womb, where the ovary, if inflamed, will be felt swollen and more or less painful on pressure. It may, however, be advisable, where there is a suspicion of other parts being involved in the attack, as well as to be more certain of the ovarian malady, to institute in all cases a thorough examination by palpation, as well

as by vaginal and rectal "toucher." The finger, "per-rectum," will hardly distinguish the ovary, unless its size is considerably augmented; and the uterus, which may be easily felt, must not be mistaken for an enlarged ovary.

Inflammation of the ovaries may terminate by resolution, or by suppuration; or it may extend to the neighboring peritoneal tissue, and prove fatal; or, it may result in chronic inflammation. Sometimes softening of the ovaries ensues. The *prognosis* in all ovarian diseases is unfavorable, from the fact that they generally remain undiscovered or unsuspected, until the favorable period for treatment has passed away.

Pathology. When the inflammation occurs independently of the puerperal state, it is generally limited to the follicles; these may be found abnormally enlarged; their coats reddened, injected, softened, and friable, and containing an opaque, flocculent substance, sometimes purulent or tinged with blood. When occurring during, or soon after pregnancy, the autopsic results are not constant, but present different degrees of change according to the severity of the attack. Thus, the ovary may be of natural size, softer than usual, its proper tissue firm, red, and injected, capillary vessels running through it in great numbers and in different directions, with an enlargement of the vesicles. But it must be recollected that during pregnancy the ovaries always enlarge and become softer, so that at full term and for some time after delivery they are twice their natural size. Or, the ovary may be enlarged even to the size of a goose's egg, variously discolored, collapsed and pulpy, with an infiltration of a yellowish, brownish, or dark-greenish fluid, or, perhaps, the ovary may be putrescent and fetid. Sometimes the proper tissue of the ovary will be found friable or semi-fluid, with a deposition in it of a viscid, greenish, yellowish, or reddish substance; the follicles tumefied and their coats swollen. Or, the deposit may be serous, and of a yellow or red color; or fibrinous and of a yellowish-white color; filling the tissues, and rendering the follicles opaque. Again, the substance of the ovary may be moderately enlarged with an infiltration of a flocculent serosity rendered opaque by plastic exudation. Sometimes the ovary will be destroyed, shreds of it being found in the pus, and in the peritoneal effusion. These

changes will variously occur, but in all, when the proper tissue of the ovary is present, it will be found more or less ecchymosed, softened and friable; its covering presenting various kinds of exudation, beneath which will be found differently colored, spotted, or striated suffusions.

The *treatment* for acute inflammation will be the same as named for Acute Inflammation of the Uterus, on page 148. Also, see treatment for Puerperal Fever, in King's Obstetrics, pages 582—590.

Chronic Inflammation of the Ovaries may be the result of the acute form, or may occur independently of it. The *symptoms* are similar but not so marked, as in the acute form. There will be a dull pain in the affected part, which may be slightly increased by motion. The catamenia may be suspended or deficient, and the constitutional symptoms will hardly be observed, except when the disease is approaching an unfavorable termination. An examination per rectum, should always be made, the same as in the acute form. The *terminations*, as well as the *pathological appearances*, will be similar to those named in Acute Ovaritis; and the *treatment* will be the same as named for Chronic Inflammation of the Uterus, on page 151.

When either the acute or chronic form of Ovaritis, is about to terminate in *abscess*, the formation of pus will be known by the rigors, the increased pain, heat, weight, swelling and throbbing of the parts, the quickness and softness of the pulse, and the diminution of the constitutional sufferings. The abscess commonly points at some spot in the iliac region, and the pus may escape spontaneously or by an artificial opening, through the walls of the abdomen, or it may be discharged through the bladder, rectum, or uterus. Sometimes, it may be emptied into the peritoneal cavity, occasioning a speedy death or, the subsequent discharge of matter into the cavity may be for a time prevented, by an adhesion taking place between the ovary and some of the adjacent parts.

The case must be closely watched when suppuration is about to ensue; if it point in the iliac fossa or groin, it should be allowed to discharge spontaneously, unless the patient be much enfeebled, or when from the thick and indurated condition of

the integuments, it is inferred that the discharge may be delayed for too long a time, then an artificial opening may be made with a lancet or caustic, as soon as fluctuation is perceptible. If the matter be found pointing toward the vaginal walls, an opening may be made at the spot with a lancet, or small trocar. To support the strength, tonics, chalybeates, alteratives, &c., will be required according to indications. In all these acute and chronic inflammations of the tubes and ovaries, coition must be suspended until the parts regain a healthy condition.

OVARIAN DROPSY.

The ovary is liable to one or more cystoid growths, from the internal surfaces of which is secreted a more or less abundant quantity of fluid, according to the size of the cyst. These cysts are usually developed very gradually, and are more common between the ages of twenty-one and forty-five years; but cases are recorded of their existence as early as at the thirteenth and fourteenth years. Very old persons are rarely, if ever, attacked with them. Unmarried females are liable to them, yet they are much more frequently observed among the married, and especially those of strumous diathesis. Usually but one ovary is affected. The cysts may be simple or unilocular, compound or multilocular, and complicated or cancerous. They frequently become very large, containing a considerable amount of fluid; and the encysted state of the fluid characterizes it from dropsy of the abdomen or ascites, in which the fluid is diffused. This condition is frequently termed Encysted Ovarian Dropsy.

Causes. These are not satisfactorily determined, though menorrhagia, strumous diathesis, and all enfeebling causes have been generally considered as predisposing to their formation. Among the supposed exciting causes may be named excessive venery, injuries upon the hypogastric region, undue excitement of the reproductive organs, as by masturbation, cold contracted during menstruation improper management of labor, or of an abortion, uterine or ovarian inflammation,

constant and profuse leucorrhea, depressing mental emotions, or whatever will produce an over excitement of the ovaries.

Pathology. *Simple cysts* are frequently met with; they are of slow growth, and are not influenced by medicines, as is the case with dropsy of the abdomen; and unlike the latter, they do not disturb the general health. They are spherical cells or sacs, developed in or external to the ovary, consisting of a delicate sero-fibrous envelop, with a single, undivided cavity, in which is contained a colorless, yellowish, or greenish fluid, or a yellowish or brownish colored substance, or an opaque dark-brown or black fluid. These various colored fluids may be limpid, and albuminous, very viscid and ropy, of the consistence of custard, or the fluid may contain a brain-like substance intermixed with it. The ovary may contain a solitary unilocular cyst, or they may be numerous; small cysts of various sizes, not, however, exceeding that of a small cherry, are sometimes met with in an ovary of natural size, occupying the place of the stroma from which they were formed, but which stroma has disappeared. Occasionally these cysts attain a diameter of six or ten inches, in which case, when several are present, but one is thus developed, the others remaining dormant. When the cyst becomes greatly enlarged, the external coat has a coriaceous appearance and varies from a quarter of a line to several inches in thickness. When a number of cysts are present, they are formed independent of each other, but are developed so closely together as to press upon and flatten each other, while at the same time an adhesion occurs between their walls; in this case, they appear as if they had been developed in the walls of the same matrix.

There is no doubt that as a general rule, the simple cyst or cysts, originate from one or more hypertrophied Graafian vesicles; and where they exceed these in number, it is supposed that they are new and independent formations from the beginning, being usually formed upon the surface of the ovary, instead of within its substance. The small, transparent, pedunculated cysts, having a delicate envelop, appear to have a different character from the preceding.

Compound or *multilocular cysts* are spherical tumors, smooth on their surfaces, but sometimes nodulated from the bulging

of the secondary cysts; they have a self-multiplying property. There are two varieties of them: 1. In the first, upon opening an apparent simple cyst, instead of a single cavity being observed, a multitude of compartments are exhibited, each one containing numerous smaller cysts, within which may again be seen a similar formation. This process may be repeated until the morbid growth becomes very complicated. The development of cysts within cysts is termed *endogenesis;* and, when they form from the external surface of the cyst, as occasionally happens, it is known as *exogenesis.* Paget, in his work on the Morbid Anatomy of Serous Membranes, observes: "Respecting the mode of generation of the endogenous (or secondary) cysts, it could only be supposed that they are derived from germs developed in the parent cyst-walls, and thence, as they grow into secondary cysts, projecting into the parent cavity; or, disparting the mid-layers of the walls, and remaining quite enclosed between them; or, more rarely, growing outward and projecting into the cavity of the peritoneum." This endogenetic formation of the secondary cysts, is now, I believe, generally acceded to. The cysts have an epithelial covering, and blood-vessels may be seen running in various directions over their surface. The liquid contained in them is somewhat similar to that found in the simple cyst, being generally gelatinous or ropy, and transparent, or differing in color.

2. In the second variety, sessile or pediculated secondary cysts form in clusters upon the internal surface of the primary cyst; and these may be so numerous that by pressing upon each other their further development is arrested, one cyst appearing to grow at the expense of another. They are usually very vascular, but when, from compression, the supply of blood to them is obstructed, they become disorganized, and occasion irritation and even inflammation. Compression may likewise unite several cysts into one, by softening or causing an absorption of the compressed walls between them; and this may also be the case with the preceding variety.

Rokitansky gives a third variety, which he considers as belonging to the areolar variety of carcinoma. It is peculiar to the ovary, consists of an accumulation of numerous fibrous sacs, which contain various substances, but principally a glu-

tinous matter. They diminish in size from the circumference toward the center, and especially toward the base of the morbid growth, so that this presents a condensed alveolar mass, the follicles consisting of a white, shining, fibrous tissue, and containing a glutinous substance, colorless, or varying in color. It is of a malignant nature.

Complicated cysts, are when the cyst formations are associated with other ovarian diseases, as hypertrophy, fibrous tumors, carcinoma, &c.

All these cysts are supposed to be due to enlargement of one or more Graafian vesicles, or they may exist as accidental formations. They progress slowly, but may ultimately become enormously developed, and then prove fatal. The walls of the multilocular endogenetic cysts are commonly thick and dense, though as before said, they may be softened or destroyed by pressure upon each other.

They are composed of an internal, smooth, secreting, fibrous coat, a central fibrous coat, and an external serous or peritoneal layer. The middle coat is vascular, and is furnished with vessels from the ovary. The walls of the cyst vary in thickness and appearance; they may be very delicate, or considerably thickened and indurated; they may be softened or ulcerated from inflammation; and even gangrene or perforation may be present. Occasionally, calcareous degeneration of them is observed. The lining membrane may be injected; exhibit lymphatic exudations, or pus, on its surface; the surface may be granulated or corrugated; spotted with various colors, &c. The fluid contained in these cysts will vary from a drop or two to several gallons, and it is found to be variously composed, the principal constituents being albumen, with fatty matter, cholesterin, chloride of sodium, phosphate of sodium, fibrin, sulphate of lime, sulphate of soda, gelatin, blood corpuscles, &c. Hair, teeth, bones, &c., are sometimes found in these sacs, not referable to impregnation. Under the microscope, circular granular cells will be seen, together with blood corpuscles, cholesterin, epithelial membrane, &c. It is not uncommon, when several cysts are present, for the fluid in one to differ materially from that in the others. After the first evacuation of the cyst by tapping, the secretion of fluid takes place more rapidly,

and its character becomes materially changed, either in color, transparency or opacity, viscidity, or limpidity, and in its constituent formation. When, from the increase of the animal and saline constituents, the density of the fluid becomes greater, as a general rule, it is indicative of an unfavorable state of the patient's system, whereby the disease is being aggravated.

Ovarian cysts continue within the pelvic cavity until they have acquired a certain size, being either movable, or fixed; as they increase in dimension, and in consequence of the minor degree of resistance with which they meet in that direction, they rise up into the abdomen, dragging the uterus upward, and elongating the vagina. Sometimes they will be more plainly recognized in the recto-vaginal cul-de-sac. Usually the cysts of greater size will be found anteriorly and posteriorly; or presenting in such a way, that when the operation of tapping is performed, the more developed sacs are the first evacuated. Occasionally, the Fallopian tubes become involved in the disease; and cysts may even spring from the tubes or broad ligaments, when the ovaries remain sound,—these are simple, and the fluid in them generally contains no albumen.

Symptoms. The symptoms in the early stage of the disease are very obscure, probably from the fact that they seldom attract the patient's notice until it has considerably advanced. There may, indeed, be no symptoms sufficient to call attention, or to lead one to suppose the existence of disease. Again, there may be a sensation of fulness in the pelvis, soreness upon pressing the abdomen just above the pubic bone, or there may be, in connection with these, irregular attacks of pain, more or less severe, and often of a lancinating character. It is not uncommon for menorrhagia to be an early symptom. As the cyst becomes more developed, still remaining, however, in the pelvic cavity, it may cause piles and constipation by pressing upon the rectum; and, if the bladder be encroached upon, there will be more or less difficulty in passing urine, perhaps a desire to urinate frequently. Sympathetic phenomena are present as enlargement of the breasts, which become tender; areolar discoloration around the nipples; morning sickness; suppression of menstruation; nausea or vomiting; weight in the pelvis; dragging from the loins; pain in the back, &c. The female,

from some of these symptoms, often imagines herself pregnant, and becomes almost certain of it when she observes the gradual enlargement of the abdomen.

The cysts usually grow very slowly, but occasionally they progress with rapidity. When the tumor has ascended into the abdomen, the pelvic weight and bearing down generally ceases, as well as the difficulty in urinating; a new set of symptoms are manifested. The urine is passed frequently, and can hardly be retained for any length of time; from compression of the veins, the lower extremities may become œdematous or varicose; pressure upon the liver, stomach, and kidneys, occasions derangement of these organs, as evinced by pain in the sides, deranged appetite, dyspeptic symptoms, palpitation of the heart, difficult breathing, heartburn, diminution of urine, vomitings, &c. In the latter stages, an emaciation of the neck and shoulders will be observed; the countenance will be pale; the features sharp and elongated, somewhat shrunken; the eyes sunken; the cheeks wrinkled; the corners of the mouth drawn downward; and a peculiar, anxious expression of the face; the patient becomes very much enfeebled and emaciated, hectic fever comes on, restlessness, feverishness, increased difficulty of breathing, and pain, and finally death. These symptoms will be found to vary, being very severe and annoying with some women, from an early period; while, with others, they will be very mild, the only symptoms complained of, at least, until toward the termination of the malady, being the difficulty of motion, and sense of distension, from the size of the tumor, and the difficult breathing occasioned therefrom. Sometimes a spontaneous rupture of the sac will take place, and the fluid be evacuated into some of the adjacent organs, as the bladder, vagina, rectum, &c., when recovery frequently takes place. The greatest danger in these cases is, when the fluid empties into the peritoneal cavity; though much will depend on its irritating or bland character. Occasionally, the tumor is said to disappear from absorption of the fluid.

When the disease is of a malignant nature, the tumor grows more rapidly, is attended with severe, lancinating pains, and the local and constitutional symptoms are manifested much sooner, being of a more active and distressing character.

In order to obtain more positive indications of ovarian disease, a manual examination should be instituted; bearing in mind that the diagnosis becomes more perplexing as the tumor increases in size. Having evacuated the bladder and rectum, the patient should lie on her back with the feet drawn close up to the buttocks, and the thighs well flexed upon the abdomen. The finger, introduced into the *vagina*, will find the os uteri in its normal position, low down in the vagina, or considerably elevated, and perhaps looking to one or the other side, according to the location and dimensions of the tumor, which may be recognized between the vagina and rectum, by its size and insensibility to pressure. When the tumor has ascended into the abdomen the os uteri will be high up and more or less open, and the vagina elongated.

Upon passing the finger into the *rectum*, the tumor will be readily felt, and beyond it the fundus of the womb will be recognized; the tumor will be spherical, elastic, and fluctuating. If a finger be passed into the vagina, and another into the rectum, the cyst may be felt lying between them, in the early period of the disease. The vaginal and rectal examinations will frequently enable us to detect cysts not recognized by palpation, as well as any adhesions that may exist between the sac and surrounding parts.

As the cyst rises above the pelvic cavity, the enlargement of the abdomen will be observed, at first, on one side, in the iliac region, but as the tumor increases in size, the whole abdomen will ultimately become equally enlarged. *Percussion* will detect fluctuation at the most prominent part of the swelling, no matter in what posture the patient may be placed, and this will be accompanied by a dull sound; while on the healthy side, and above the tumor, percussion will elicit the peculiar tympanitic sound of the intestines. The dull sound in the tumor may be traced into the pelvis. The fluctuation in the multilocular cyst is not so well marked as in the unilocular.

Palpation will serve to aid in determining the character of the cyst by its wall; the unilocular sac is generally smooth and even, while the multilocular is more commonly unequal and nodulated.

A *microscopic examination* of the fluid from an ovarian cyst

does not assist much in determining the existence of the cyst, for the substances found in the fluid are by no means peculiar to it, unless we except the granular cells detected by Mr. Nunn; these are of circular form, with well-defined outlines. For the purpose of detecting the nature and contents of the tumor, Dr. Simpson advises a very slender silver trocar and canula, the former tipped with a short steel point, to be passed into the sac; then, withdrawing the trocar, the fluid flows along the tube, and can be examined chemically and microscopically. This "exploring needle," as he terms it, may be used in connection with a small exhausting syringe, when the fluid is thick and viscid.

It may be decided that the cyst is *free* and *not adherent* to the peritoneum or adjacent organs, when, with the patient in the same position as named for the preceding manual examinations, the tumor may be easily moved from side to side; when the walls of the abdomen may be readily passed over the walls of the sac; and when the abdominal walls can be seized by the hand and raised up without disturbing the tumor. If the cyst be non-adherent in front, a deep inspiration will depress its superior portion about an inch; and if, while the patient thus inspires, percussion be made over that part of the abdomen where the superior portion was previously located, instead of the dull sound of the tumor, the intestinal tympanitic resonance will be elicited,—the dull sound returning as soon as the patient resumes her usual breathing.

Discrimination. There are several diseases which may be mistaken for ovarian dropsy, and, it is important that the practitioner be able to determine between them; but this will often be found a difficult matter. Great care should be observed not only in determining the existence of ovarian dropsy, but also in ascertaining its true character. Our most experienced and distinguished medical men have been occasionally deceived, and rendered incorrect opinions concerning this class of maladies. The principal marks of discrimination while the tumor is in the pelvis, are the following:—

Retroversion of the uterus comes on suddenly, or more rapidly than ovarian dropsy; the uterus is immovable, with its fundus in the hollow of the sacrum, and the os uteri at the

pubic arch; the bladder is enlarged, and there is pain and retention of urine. Ovarian dropsy comes on slowly, the symptoms are not usually severe, and a rectal examination will detect the cyst. The uterus may be changed in position, but the os uteri generally looks downward.

Retroflexion of the uterus may be ascertained by Simpson's sound, as heretofore named, on page 93.

Uterine tumors will be referred to hereafter.

Dropsy of the Fallopian tubes does not occasion so much pelvic uneasiness, weight, difficult urination, costiveness, &c.; and the examination per rectum will detect the ovaries free from disease, if they are within reach; when enlarged they can generally be felt.

Pregnancy, in the earlier months, is very difficult to determine; the softening of the cervix, and the white mucous plug filling the cervical canal and seen at the os uteri, may aid in the discrimination, especially when associated with a rectal examination to distinguish the ovary from the fundus uteri. These vaginal and rectal examinations should be very carefully made. When both pregnancy and ovarian dropsy are present, the discrimination is rendered still less certain; perhaps, two tumors may be found to exist, and the pelvic distress, from the greater degree of compression, will be more severe.

Tumors in the membrane between the vagina and rectum, are not movable; the ovarian cyst is more or less so.

The discriminating marks when the tumor has ascended from the pelvic cavity into the abdomen, are as follows:—

Ascites, or *abdominal dropsy*, is frequently difficult to distinguish from encysted dropsy of the ovary, especially when the latter disease has advanced considerably, greatly enlarging the abdomen. Ascites is commonly associated with disease of the liver, kidneys, or heart, or is the result of acute or chronic peritonitis; which is not the case with the ovarian affection, in which the patient does not have any very unpleasant symptoms to precede or accompany the early part of the disease, except the pelvic uneasiness. In ascites the feet and legs are dropsical; in ovarian dropsy this does not occur except in the last stages, or, when it occurs in the early stage, the œdematous limb is on the same side with the affected ovary. In

ascites, hydragogues and diuretics diminish the abdominal swelling; in ovarian cyst they produce no such influence. Ascites is diffused over the abdomen; the fluctuation is very distinct on percussion; the uterus is normally situated, or somewhat depressed; and the enlargement changes with the position of the patient. Ovarian dropsy is on one side; the tumor is well defined; the fluctuation is obscure; the uterus is elevated, sometimes beyond reach; and the situation and projection of the tumor does not change with an alteration of position. There is no intestinal tympanitic sound in ascites, except above the level of the fluid; in ovarian dropsy, when not occupying the entire abdomen, the intestinal sound can be discovered on one side of the tumor, below the level of the fluid. A rectal examination will ascertain the enlarged ovary. The constitutional symptoms are better marked in ascites.

Pregnancy is likewise difficult to distinguish from this affection; in advanced pregnancy, auscultation will detect the beating of the fetal heart, and ballottement, the presence of a free, floating body in the uterus; the movements of the child may be felt, and the pregnancy terminates in about nine months. In ovarian dropsy none of these symptoms are present, the disease continues for years, and the development of the tumor progresses much more slowly. The condition of the os and cervix uteri during pregnancy vary from that found during the ovarian disease. In doubtful cases, and where it becomes imperatively necessary to ascertain the nature of the difficulty, the uterine sound may be used. The greatest perplexity in the determination of these two conditions is met with when they exist simultaneously.

Uterine tumors are of two kinds, hard and soft. Among the hard tumors are the *pedunculated*, which possess neither elasticity nor fluctuation, both of which characters belong to the ovarian tumors. The discrimination is not always easily accomplished, and the most careful examination of the uterus and of the tumor should be made per vaginam as well as per rectum.

Fibrous uterine tumors may be detected by the uterine sound (or bougie); though this should always be introduced gently and with great cautiousness, lest irreparable evil be the conse-

quence. More advantage is derived from its employment in an early stage, than in an advanced; in the former we may often determine more readily the side on which the tumor forms, as well as whether it has formed adhesions. Dr. Simpson, of Edinburgh, makes the following observations in relation to this instrument when used for the purpose just referred to:— "In other instances, where the tumor is not uterine, we have repeatedly made ourselves and others certain of the fact, by first introducing the bougie (or sound,) and so far giving us at once a knowledge of the exact position of the uterus, and a control over its movements, and then proceeding in one of three ways: 1. The uterus may be retained in its situation with the bougie, and then, by the assistance of the hand above the pubis, or by some fingers in the vagina, the tumor, if unattached to the uterine tissues, may be moved away from the fixed uterus. 2. The tumor being left in its situation, it may be possible to move away the uterus from it to such a degree as to show them to be unconnected. Or, 3. Instead of keeping the uterus fixed, and moving the tumor, or fixing the tumor and moving the uterus, both may be moved simultaneously: the uterus by the bougie, and the tumor by the hand or fingers, to opposite sides of the pelvis, to such an extent as to give still more conclusive evidence of the same fact." As the ovary is always situated behind the uterus, a tumor anterior to this organ cannot be ovarian. The *soft* or *fibro-cystic* tumors of the uterus, are of a still more embarassing nature than the hard; but fortunately they occur very seldom.

Cysts in the abdomen are sometimes met with, which may spring from the peritoneum, mesentery, liver, or other abdominal organs; they are often of a hydatid nature. They are difficult to distinguish from ovarian cysts. A vaginal and rectal examination may aid in determining whether the ovaries be diseased; and the practitioner should learn at what point the tumor first appeared, how it progressed, whether pelvic uneasiness was present at any time, in what part the most pain has been experienced, and the character of the presenting symptoms, so as to determine what organs are most involved in the disease.

Distension of the bladder may be known by the small

quantity of urine passed previous to the examination, and by the introduction of a catheter, which will cause a diminution of the tumor as the urine escapes; this is a point that should always be attended to immediately previous to an investigation of such cases.

Accumulation of gas in the intestines may be recognized by the tympanitic sound on percussion; the gas is apt to be removed when the system is greatly relaxed by Lobelia, Gelseminum, or anæsthesia by Chloroform.

Accumulation of feces in the intestines gives a dull sound on percussion, but no fluctuation or tympanitic resonance. Constipation of an obstinate character is present, or, a watery diarrhea containing more or less scybala.

Enlargement of the abdominal viscera, as the liver, spleen, &c., is accompanied with more constitutional suffering; the general history of the case must be ascertained, as, the first appearance of the tumor, when, at what part, its mode of progress, symptoms, &c.

Recto-vaginal hernia, unlike ovarian dropsy, is influenced by coughing, by change of position, and the finger cannot be passed beyond the tumor.

Displacement of the ovary into the recto-vaginal space, occasions uneasiness when an examination is made, and pressure produces great pain; in ovarian dropsy the pain accompanying pressure is very little or none at all.

Pelvic and psoas abscess are ushered in with great constitutional derangement, and symptoms of inflammation, most of which continue until suppuration ensues, with severe pain; the patient cannot bear an examination by palpation. Throbbing, and a scarcely perceptible fluctuation, follow the pain.

Retained menstrual fluid, from imperforate hymen, is apt to be accompanied with more local distress, and sometimes anemia. A vaginal examination will detect the occluded hymen, and the retained fluid at that point will convey a sense of fluctuation; upon incising the hymen, the fluid will escape, and the tumor will gradually disappear, together with its accompanying symptoms.

Malignant disease of the ovary usually progresses more rapidly, and the constitution suffers more severely. When

malignant disease is diagnosticated, the only treatment is palliative. All active or depressing agents are contra-indicated, as well as tapping.

Prognosis. Although many cases have undoubtedly been cured, yet the prognosis of ovarian dropsy is always uncertain. The size of the cyst, its duration, rapidity of growth, character of local symptoms, and the age and general health of the patient, must be considered before a decisive opinion is rendered.

Dr. Ashwell says: "Negative treatment, or, in other words, an attention to the general health, avoiding, as much as possible, constitutional excitement and ovarian irritation, promise most favorably for the patient. The cases adduced, and many others, sufficiently attest the inefficiency of medicine; and as to the radical cure, (by extirpation of the ovary,) it is so truly hazardous, as to be rarely ever thought of. Many patients pass through a long and comparatively comfortable life with a large ovarian dropsy; and more might enjoy this immunity from suffering, if marriage and parturition were avoided, and if self-denial and abstinence were rigidly practiced."

Treatment. Encysted ovarian dropsy is an affection of a purely local nature; having been correctly looked upon as the result of some abnormal condition, it has been supposed that a treatment which would give health and vigor to the general constitution, must ultimately cause a disappearance of the disease, and some cases are on record in which this course has been followed with success, especially when it has been undertaken at an early period. The means used for this purpose, are a maintenance of the regular action of the bowels, kidneys, and skin, by laxatives, mild diuretics, bathings and frictions. Purgatives and active diuretics, as well as diaphoretics, exert no influence in reducing the size of the tumor, as they do in ascites, and are, consequently, contra-indicated. Frictions and kneadings of the abdomen daily, are considered useful. The internal remedies are tonics, together with various preparations of Iodine, as the Compound Solution of Iodine, with preparations of Iron, or of Iron and Manganese; Iodide of Iron; Iodide of Iron and Manganese; Hydrochlorate of Ammonia; &c. The local means are counter-irritation to the lumbo-sacral

region, as Firing, Dry-cupping, or Cupping with scarification, &c. Upon the abdomen directly over the tumor, the parts may be painted with the Tincture of Iodine; or, the Compound Ointment of Iodine may be rubbed on; or, the Compound Plaster of Belladonna may be worn constantly. Hygienic measures should be rigidly attended to, giving the patient a nourishing diet, pure air, cheerful society, moderate exercise, and avoiding every thing calculated to excite or irritate the uterine organs more especially.

But, unfortunately, although some cases have been cured by the above measures, they frequently fail to influence the disease, which continues to progress until checked by other means, if checked at all. These other measures are of a surgical character, and although not universally successful, yet they *sometimes*, effect cures; and, in a disease so unyielding, as a general rule, to remedial influences, it would seem that an operation which would save one person out of ten, would be perfectly justifiable. In relation to an operation in this disease, Velpeau says: "I believe that in the great majority of cases, patients live longer than six years, perhaps seven or eight years, after these tumors become appreciable; and as, in many instances, without any treatment, life is prolonged even for fifteen or eighteen years, it would be unwarrantable to adopt any measures which involve great danger in themselves; yet, at the same time, since, sooner or later, this disease leads to a fatal termination, there is evidently room, in one sense for operative interference." He also says that he is confident of having witnessed, in his own practice, cures from pharmaceutic treatment, although it may be impossible for him to convince others of this circumstance. Several surgical operations have been introduced to the profession, which I will now proceed to notice.

Tapping. Evacuate the bladder, and place the patient in bed, lying upon the side corresponding with the diseased ovary, with the abdomen pendent over the edge of the bed; introduce the trocar into the abdomen in the semilunar line, at a point where the wall of the cyst appears to be thin and fluctuation is sufficiently distinct, avoiding any part which has a dense or irregular feel, and being careful not to wound the

epigastric artery, nor any enlarged blood-vessels which may exist. In all cases, it will be better to first make an incision through the integuments previous to thrusting in the trocar; and a tolerably large trocar and canula should be used, so that any semi-solid substance which may be present may not obstruct the passage of the fluid through the tube. The fluid escapes readily, and by pressure, and turning the patient more on her side, the sac may be more effectually emptied. As soon as the evacuation of the sac is completed remove the canula, close the lips of the wound by strips of adhesive plaster, and secure a small piece of lint over the wound.

Very rarely has ovarian dropsy been cured by tapping; commonly, the fluid is secreted anew, the secretion occurring more rapidly than before, and becoming altered in its constitution; beside which, serious inflammation of the sac is apt to result, owing, as is supposed, to the admission of air. Though, where none of these unpleasant symptoms have ensued, the patient's life has often been prolonged by frequent tappings.

Sometimes much benefit has followed when, after the operation of tapping, pressure has been made and continued. Compresses placed over the abdomen so as to fill all its inequalities, are retained in their position by large strips of adhesive plaster, over which a bandage must be properly applied. These must be closely watched, readjusting them whenever they become deranged; and the tendency of the bandage to move upward may be obviated, by attaching straps to it, and passing one around each thigh. Their compression may prevent the fluid from being so rapidly secreted; it may cause the absorbents to remove the disease; or it may effect a rupture of the sac. In connection with this treatment, constitutional measures should be pursued, together with active diuretics and mild purgatives. This plan has been found most beneficial in those cases where the fluid is clear and not albuminous.

Of late years, it has been proposed, after having evacuated the fluid of the cyst by tapping, to inject two or three fluid-ounces or more, of the undiluted Tincture of Iodine into the sac, for the purpose of producing adhesive inflammation of its walls. The French surgeons say that by this method three

patients in four are cured. They consider the operation more especially applicable to cysts having an internal serous surface, known by their serous contents, and to cysts enclosing fatty or bloody matter. The injections are not to be used with multiple or areolar cysts, or those complicated with malignant affections. The danger to be more especially feared is, the inflammation. Ten fluidounces of the Tincture of Iodine have been injected into an evacuated cyst, and with successful results; but so large an injection would not always be prudent. Very little if any pain is occasioned by the injection; but as prostration is apt to follow it, wine or brandy should be freely given; generally, in about half an hour after the injection, all the secretions of the body become strongly impregnated with Iodine. The method has been tried in this country and England, and with good results, though not found to be so generally efficacious as the statements of French surgeons would intimate; and, in some cases, its results have been very calamitous.

In connection with the preceding method of tapping followed by Iodine injections, it has been recommended to apply the Tincture or Ointment of Iodine to the abdomen, and inside of the thighs; and to administer some preparation of Iodine by mouth; but great care must be taken not to injure the constitution thereby, nor produce an obstinate local inflammation.

The formation of an *artificial oviduct* has been advised, for the purpose of preventing the cyst from refilling, and in some cases it has proved successful. The patient is tapped, and after the evacuation of the fluid, a leaden tube is obliquely passed through the wound and into the sac, diminishing the diameter of the tubes as the wound contracts. In some cases, Iodine injections may also be employed, in small quantity, repeating them every day or two.

An improvement has been made upon this operation, thus:—tap the patient in the manner heretofore named, then stitch the edges of the wound in the cyst, to the edges of the wound in the abdominal parietes, being careful not to include any peritoneal or muscular tissue; insert a pledget of lint, which serves as a syphon to carry off the fluid as fast as it forms, and secure this by strapping; lastly, partially close the external

wound by stiches. The patient must lie on the side in which the operation has been performed. The sac may be injected occasionally, if desired. This operation has likewise proved occasionally successful.

Another plan is *the excision of a portion of the cyst.* This is, however, not universally applicable, being limited to unilocular cysts, with thin, slightly vascular, and non-adherent walls, the fluid being of a slight specific gravity, and containing but little albumen. To perform the operation, make an incision through the integuments of the abdomen and down to the cyst, in the semilunar line; the extent of the incision may vary from one to four inches in length; puncture the cyst by a large trocar, and nearly empty it of its contents; then, seizing the cyst by a pair of vulsellum forceps, cut out a piece as large as possible, avoiding, if it can be done, any blood-vessels of the sac; return all protruding bodies, close the wound, and make three, four, or five deep interrupted sutures, avoiding the peritoneum. Smaller sutures may be taken between these, if necessary, to insure perfect union. The fluid subsequently secreted by the remaining part of the cyst, escapes into the peritoneal cavity, is absorbed, and ultimately discharged by urine. During the operation should any of the larger blood-vessels of the cyst be divided, they must be ligatured with twine, cutting this off close, and leaving it.

Ovariotomy, or removal of the whole cyst, has been practiced, and recommended by many eminent surgeons; yet there are, on the other hand, many medical men of high standing who are opposed to it. Dr. Druitt, in the Surgeon's Vade Mecum, explains the several objections which have been urged against complete extirpation of the ovary, and then remarks:—"On the other hand, in favor of the operation, it may be argued: 1st, That the mortality occurring from this is not larger than from many other surgical operations; 2d, That no other plan of treatment can effect a radical cure, but by this, women, relieved of a burden which made life miserable, have married and borne children; 3rd, That if favorable cases only were submitted to operation, the mortality would be very small, and that increase of experience would lead to the selection and discrimination of favorable cases; 4th, That if the surgeon, in

order to complete his diagnosis, makes a small incision to ascertain the existence of adhesions, and closes it again with suture, if he finds this to be the case, no great harm is likely to result; in fact this, which is sometimes raked up as an opprobrium against operators, is a prudent and legitimate measure. Lastly, it is by far the *most merciful* plan of treatment, if adopted early, in patients otherwise healthy, with a still growing, but non-adherent tumor."

According to the best surgical authority, we are justified in performing the operation of ovariotomy, when, with the consulting surgeons, the operator is fully satisfied that an ovarian tumor exists; when the tumor continues to enlarge, and will probably prove fatal if not removed; when the several plans of tapping and constitutional treatment heretofore referred to, have been fully tested without any advantage accruing therefrom; when no malignant disease is associated with the tumor; when the patient's health and strength are not too far impaired or exhausted, so as to contra-indicate such an operation; when the examination is unable to detect any adhesions; and when the fluid contents of the sac are not albuminous, or only slightly so; an albuminous state of the fluid is a contra-indication to the operation. When once the operation is determined upon, the earlier it is performed the less hazard will the patient run; while, on the other hand, if it be delayed until the respiration and healthy action of the abdominal organs are interfered with, and the general health begins to fail, the greater will be the risk.

The instruments necessary for the operation, and which should always be ready within reach while operating, are, one or two scalpels, a pair of common forceps, a pair of vulsellum forceps, a pair of scissors, trocar and large sized canula, and tenaculum; sponges should also be provided, and several basins to contain warm water. One aneurismal needle armed with the best twine, well waxed, to convey the double ligature around the pedicle of the tumor; six or seven large needles similarly armed for the interrupted sutures; also, several smaller ligatures for the blood-vessels, should be in readiness, as well as lint, adhesive straps, and a warm, many-tailed flannel bandage to place around the abdomen as soon as the oper-

ation is finished. Each assistant should be thoroughly instructed in his duties before the operation is commenced, in order to save time and prevent confusion. The room in which the operation is performed should range in temperature between 65° and 75° F., and the air in the room should be rendered moist, which may be effected by keeping a vessel containing water, constantly boiling. There should, likewise, be an abundance of hot water provided and placed near the operator and assistants, in which they may immerse their hands when cold, as well as the instruments.

Previous to the operation the following points should be attended to; the hair of the pubes should be shaven; on the preceding evening the patient should have her whole body and limbs bathed with warm water, so as to cleanse the surface thoroughly. No food must be allowed for several hours before the operation, thereby preventing any sickness from the inhalation of Chloroform; though for three or four hours immediately preceding it, she should be instructed to suck ice. The bladder as well as the rectum must be evacuated. Provide for the bed that it be not soiled by the discharges.

During the operation use no more Chloroform than is absolutely necessary; keep the genitals covered with a napkin; and if the weather should be cold, the limbs and chest should be kept warm by flannel garments previously put on. If menstruation be present, postpone the operation for some five or six days after the cessation of the discharge. When all is ready for the operation, place the patient on her back, upon a table or bed, the shoulders being slightly elevated, and the feet resting upon a stool or chair. Bring her under the influence of Chloroform. Then make an incision about three inches in length, between the umbilicus and pubis, and through the linea alba, carefully dividing the integuments, layer by layer, until the white or bright glossy cyst is reached, or can be discerned. Two or three fingers should now be carried over the surface of the tumor to detect any existing adhesions. Slight adhesions may be destroyed by careful pressure and manipulation with the fingers; if there are several small adhesions which cannot be broken down by the fingers, tie them to avoid hemorrhage, and then divide them; but if the adhesions are

extensive, further proceedings for extirpating the ovary should cease, though a portion of the cyst may be excised, as heretofore explained, page 250.

Having found no adhesions, or only such as can be readily destroyed, the incision should be increased to four or five inches in length, or as much more as may be required for the extraction of the cyst. Then by means of a canula and trocar evacuate the contents of the cyst, not permitting any of the fluid to enter into the cavity of the abdomen. In some instances, when it can be done, the sac may be drawn out of the abdomen, previous to tapping it. If the wall of the simple cyst be thin and non-vascular, or nearly so, excise a portion of it, and close the wound, as heretofore described, page 250. If, however, it be thick, or vascular, or multilocular, after reducing its size by the tapping, gently draw it out of the abdomen as much as possible, seizing its pedicle in the left hand, while, at the same time an assistant will carefully keep back the protruding viscera by flannels, which have been wrung in hot water. After carefully observing the direction of the bloodvessels in the pedicle, puncture it with a scalpel rather close to the tumor, guiding the knife so as to avoid hemorrhage from injury to the vessels; through this orifice thus made, pass the needle armed with the double ligature, and securely tie each segment of the pedicle. This accomplished, cut off the pedicle about half an inch from the ligature, or close to the sac. The retained and ligatured pedicle is now to be held, by an assistant, at the lower end of the incision in the abdomen, while the operator closes the wound as soon as possible, by sutures about six lines distant from each other; these should be situated about an inch from the edges of the wound, and be passed through the whole thickness of the walls of the abdomen, being careful not to penetrate the peritoneum; superficial interrupted sutures should also be taken in the intervals between the deeper ones, so as to bring the edges of the wound in close apposition. It is a good plan, when the diseased mass has been removed, and before closing the wound, to observe if the other ovary be diseased; in which case, it may also be immediately extirpated. Any fluid or clots of blood which may have es-

caped into the abdominal cavity, should be removed by an assistant, with a soft sponge, before the wound is closed.

To prevent the stump of the pedicle and its ligatures from falling into the abdomen, a smooth round wire, three or four lines in diameter, may be passed through the ligatures at right angles with the incision, resting upon the abdomen, and thus holding them securely. The ligatures may be firmly fixed upon the abdomen by strips of adhesive plaster; and then a compress which has been dipped in warm water, may be placed upon the wound, covering it with a piece of oiled silk. This accomplished, place the bandage around the abdomen, not too tight, put the patient in bed, and apply warm flannels or bottles of hot water to the feet and inferior extremities.

Two grains of Opium, or a full dose of Morphia, should now be administered, and the anodyne should be repeated every few hours until all pain is mitigated. The diet, at first, should be confined to ice, iced water, barley water, and weak broths, but in a day or two, the patient may take strong animal broths; and wine, if not contra-indicated. The bowels should not be moved for five or six days following the operation, and the bladder should be emptied by catheter every five or six hours, for the same length of time. The patient must continue very quiet, and the room be kept of uniform temperature for seven or eight days. She should not be left alone for forty-eight hours after the operation; arrangements should be made that either the operator or some of his assistants may be with her constantly during this time, in order to promptly subdue any dangerous symptom that may present, and to otherwise watch the case.

The principal dangers following the extirpation of the ovary, are, 1, Hemorrhage, generally from the stump of the pedicle, and which, when it does occur, may be checked if the stump be permitted to pass out of the wound; sometimes, fatal hemorrhage ensues from unknown causes until revealed by autopsic inspection. 2, Peritonitis; this is a common result, and must be treated on general principles, whether it be of an acute or typhoid character.

If, during the operation, unexpected adhesions present which it would be hazardous to destroy, or cancer be observed, or,

the vascularity of the cyst be found so great as to endanger life from profuse hemorrhage, the surgeon must be governed by all the attending circumstances of the case, as to whether he will proceed no farther, excise a portion of the cyst, or finish the extirpation.

The preceding are the principal operations recommended for the cure of ovarian dropsy. I have endeavored to be as brief, and yet as thorough as possible, in explaining the general principles of each of them. Success has attended them in various instances, but it will require further experience, based upon an improved diagnosis and correct surgical principles, before a preference can be accorded to either.

NON-MALIGNANT TUMORS OF THE OVARY.

Occasionally, fibrous tumors, similar to those met with in the uterus, are found attached to, or imbedded in the proper substance of the ovary; most commonly, they are associated with an analogous affection of the womb. The causes of these tumors are not known. They vary considerably in size, from a drachm or two in weight to fifty pounds; and their growth is exceedingly slow.

According to Dr. Baillie, "the ovarium is much enlarged in size, and consists of a very solid substance, intersected by membranes, which run in various directions. It resembles in its texture the tumors which grow from the outside of the uterus, and I believe has very little tendency to inflame or suppurate." Fibrous tumors of the ovary have sometimes become either partially or completely converted into cartilaginous or osseous structure; the latter being due to calcareous deposition; beside which, small cysts have been observed in their interior.

Scrofulous and *tubercular* disease is stated to rarely attack the ovary, but Rokistansky, is disposed to doubt it.

Symptoms. These are generally mechanical, being due to compression of pelvic nerves and vessels, as, more or less troublesome interference with the evacuations of the bladder and rectum, weight in the pelvis, numbness of the limb on the affected side, œdematous enlargement of the leg, &c. When of large size, and above the pelvic cavity, the tumor occasions

but little suffering, and does not tend to diminish the duration of the patient's life. If pregnancy occur, while the tumor remains within the cavity of the pelvis, it may prevent the expulsion of the child at the period of parturition, requiring perforation of the child's head, or a removal of the tumor, to save the mother's life. (*See King's Obstetrics, page* 340.)

The tumor may be recognized as ovarian by an examination per rectum, which will also enable us to distinguish it from a *uterine tumor;* the slow progress of the tumor, the absence of pain, and the good health of the patient will determine it from any *malignant disease* of the ovary.

Treatment. While the tumor remains in the pelvis, the evacuations of the bladder and rectum should be kept regular by the catheter, and injections, if required. When it has ascended above the brim of the pelvis, no treatment will be of service, except to relieve any untoward symptoms that may present, as inflammation, &c.

MALIGNANT DISEASE OF THE OVARIES.

The ovaries are often attacked by malignant disease, in the form of scirrhus, cancer, or fungus hematodes. Their *causes* are involved in obscurity. The *scirrhus* form is rarely met with; it presents an irregular, tuberose surface, the tumor being hard and the internal parts presenting appearances similar to those of scirrhus of the uterus. The most common form of *cancer* met with in the ovary, is the "alveolar," in which the follicles of the organ are converted into large fibrous sacs, which diminish in size from the circumference toward the interior, and especially toward the base of the morbid growth, and which usually contain a grayish, yellowish, greenish, or reddish viscid substance.

The other variety of cancer, *medullary* or *fungus hematodes*, is of much more rapid growth, and is accompanied with more severe symptoms than scirrhus; it presents a variety of structure, even in the same diseased mass, as fibrous, cartilaginous, calcareous, or osseous. Rokistansky describes two forms of medullary cancer; one occurring in spherical growths, varying in size from that of a pigeon's egg to that of a cocoa-nut, and

invested with a fibrous sheath, which is sometimes perforated by the tumor as it grows into the peritoneal cavity. The mass is quite dense, containing in its substance quantities of cellular tissue which appear to divide it into apartments; or the entire ovary may contain soft encephaloid matter, presenting fluctuation. The matter of the cancer may be the genuine white, or it may contain numerous pigment cells of various colors; multilocular cystoid productions are frequently superadded to the disease. This form of cancer occurs in connexion with cancer of some of the surrounding organs or tissues, between it and which adhesions frequently form. Both ovaries may be attacked.

The other form is often coexistent with areolar cancer, and consists of racemose, fimbriated, fibrous, vascular excrescences, containing a milky or creamy juice, or, an encephaloid pulpy mass, which form on the internal surface of the follicles of areolar cancer; on one of the sacs of the compound cysts; or, upon the internal surface of a simple cyst. When large, they frequently perforate and sprout through the walls of the cyst.

Symptoms. These differ according to the situation of the tumor; in the pelvic cavity, or in the abdomen. While remaining in the pelvic cavity, the symptoms will be mechanical, similar to those named under non-malignant tumors. Menstruation may continue, and even conception take place, if one ovary remains healthy; though delivery will be thereby rendered hazardous. The characteristic symptoms of the disease occur when the tumor has risen above the pelvis and becomes softened; these are, rapid growth of the tumor, more or less severe lancinating pains in the part, glandular enlargements in other parts of the body, paleness of countenance, quick, weak pulse, emaciation, great weakness, hectic fever, aphthous ulcerations in the mouth, &c. Inflammation of the peritoneum may ensue in the course of the disease, and carry off the patient; or, the contents of the softened tumor may be discharged into the peritoneal cavity, and prove fatal. Not unfrequently these are evacuated through an opening in the bladder, intestines, or vagina, &c.

An examination per vaginam, as well as per rectum, will detect the enlarged ovary, while it remains in the pelvic cavity;

pressure upon it, in most cases, occasions soreness or pain. When it has passed above the pelvis into the abdomen, palpation will discover it; it will be found about the size of a cocoa-nut, firm and unyielding, with an uneven or nodulated surface.

Discrimination. *Accumulation of fecal masses in the cæcum*, from constipation, will often perplex the practitioner; the presence of constipation, the disappearance of the tumor when the bowels are evacuated, and its reappearance when they become closed, the non-increase in the size of the tumor, and the absence of constitutional symptoms, will determine this state from cancer; though when a tumor is present, in a state of quiescence, the discrimination will be difficult.

Pregnancy may be known by ballottement and auscultation, and the surface of the enlarged uterus will be smooth, and not so hard as in the cancerous tumor.

Ovarian dropsy, is softer and more yielding, with a sense of fluctuation; and the constitutional symptoms are mild; except when it is complicated with cancer.

Fibrous tumors of the uterus seldom acquire the size which the malignant attain; they are usually harder, less movable, and occasion less constitutional irritation than cancer.

Enlarged spleen may be mistaken for a malignant ovarian tumor; but the history of the case, the general character of the symptoms, palpation, and examinations per vaginam and rectum, will solve the matter.

Treatment. Not much can be expected from medicines. The general remarks on the treatment of Cancer of the Uterus, on page 194, will apply to this disease. Extirpation of the ovary has been proposed, but, as the disease is seldom brought under the surgeon's notice until it has considerably advanced, this operation is contra-indicated. Indeed, I doubt its propriety at any stage of the malady.

DISPLACEMENTS OF THE OVARIES.

The ovaries are always displaced to a greater or less extent by displacements of the uterus, and when these are remedied the ovarian difficulty disappears, unless adhesions have formed

between the ovaries and adjacent parts, when the displacement becomes irremediable.

These organs may also become displaced when affected with any disease increasing their weight, as congestion, dropsical cysts, or tumors, which may drag them below their natural position in the pelvis, and give rise to the mechanical symptoms heretofore described. Ovarian tumors above the pelvis, may raise the ovary above its natural position.

Hernia of the ovaries sometimes occurs; it may be confined to one ovary, or involve both. It may exist as an independent hernia, or may be associated with hernia of the uterus, of portions of intestine, or as a common accompaniment, of the Fallopian tubes.

The *causes* are various; as compression of the waist, injuries in the hypogastric region, long-continued crying of female infants, severe or sudden exertions, &c. The predisposing causes are ascites, relaxation of the system by improper diet, malformation of the pelvis, or of the ovaries, sudden emaciation, &c. Sometimes the hernia is congenital.

Symptoms. Ovarian hernia may present the following varieties: 1, The ovary may escape through the inguinal ring; 2, through the crural arch; 3, through the ischiatic notch; 4, through the umbilical ring; 5, through an opening into an abscess of the walls of the abdomen; or 6, the ovary may descend into the labia majora.

The most common among these is the first, or inguinal, in which a small tumor will be observed under the skin, about as large as a pigeon's egg, and of the same shape. It is circumscribed, elastic, occasions no discoloration of the skin, and is very painful when pressed upon, the pain being apparently prolonged to the uterus. All displacements of the ovaries external to the pelvis occasion severe pains in the hypogastrium and loins, with a dragging sensation, which are much increased upon walking, or when the patient lies on the side opposite to the tumor.

Discrimination. If the finger be passed into the vagina or rectum, and the uterus be moved, the displaced ovary will be felt to move at the same time, by the patient, or the medical attendant.

Enterocele and *Epiplocele* are accompanied with dragging of the stomach, colic pains, borborygmi, vomiting, or constipation, and the female obtains relief by lying upon the side opposite to the tumor, all of which are absent in ovarian hernia.

Treatment. Reduce the hernia as soon as possible, and employ measures to keep it thus reduced. But it will frequently be found irreducible, notwithstanding all our attempts.

If this be the case, or if symptoms of strangulation occur, the pain and inflammation thereby produced must be relieved by the usual measures, and the operation for strangulated hernia be performed. Having relieved the stricture, carefully return the ovary into the abdomen, retaining it there by a compress and bandage. Sometimes, from adhesions, inflammation, or other disease of the ovary, the hernia will be found irreducible; in these cases, if the adhesions cannot be broken down, nor the hernia reduced, after abating the inflammatory symptoms, it may become necessary, especially if severe symptoms or great discomfort arise from its continuance, to remove the ovary by excision.

PART III.

FUNCTIONAL DISORDERS.

MENSTRUATION.

The three grand functions which, independent of peculiarity of structure, distinguish the female sex from the male, are menstruation, child-bearing, and lactation. In this work the derangements of the first alone will be noticed, the last two having already been noticed in the author's work on Obstetrics.

The appearance of the menstrual discharge is, generally, indicative of the maturity of the female, and her capability of becoming a mother; while its cessation manifests the loss of such capability. In speaking of this discharge, females variously term it, the menstrua, courses, monthlies, menses, catamenia, periods, terms, the change, the flowers, &c. More commonly when the discharge is present, they will say they are "unwell," or "out of order"; and not unfrequently they will refer to the catamenia by observing, that "*they* have not been on for a long time," or, that "*they* are too frequently." Physicians term it menstruation, catamenia, or ovulation.

The establishment of the menstrual function varies in different climates, as well as in different individuals in the same climate, depending much upon various moral and physical causes, as the temperaments, modes of living, &c. In warm climates the menstrual discharge appears much earlier than in cold ones, having been noticed at as early an age as eight or ten years; but in these instances they cease at a much earlier period. In the colder climates the discharge does not

appear until the female has reached her eighteenth, nineteenth, or twentieth year. In our own temperate climate, it usually appears at the fourteenth or fifteenth year.

Precocious menstruation is the term applied to the discharge when it appears at the twelfth or thirteenth year, or at a much earlier period than is usual with the females of each peculiar climate. It is indicative of a premature or too rapid development of the reproductive organs, while others, fully as important, have their evolution prolonged or defective. Menstrual precocity is apt to be followed by early death, more especially when marriage, followed by pregnancy, should unfortunately take place as a consequence of such indications of maturity.

Tardy menstruation, or when it is delayed to the seventeenth or eighteenth year, or to a much longer period than is usual with the females of each peculiar climate, is, like the preceding, a phenomenon much to be regretted, as it is commonly indicative of some disease or unhealthy condition which may eventually destroy the female.

Healthy menstruation occurs at regular periods of twenty-eight days, continuing each time from three to seven days, although it may be remarked that some females menstruate for one day only, while with others it may continue for twelve or fourteen days, and without at all enfeebling or in any other way impairing the general system; the quantity discharged during a catamenial period, amounts on an average to from four to eight ounces, according to the constitution of the female, being larger in warm climates and among those who lead a sedentary, luxurious life, and much less in cold regions. Its first appearance is frequently unattended with any premonitory symptoms; most generally, however, it is preceded by certain symptoms before the function is completely established, as, a feeling of languor and lassitude; dull heavy pains in the loins, hips, and uterine region; headache; heat and weight in the lower part of the body; colicky pains; full pulse; deranged appetite; and sometimes nervous and hysterical symptoms. At first, the discharge is usually small in quantity, and of a muco-serolent character, but soon becomes bloody, and of a proper amount; in a few days it lessens, becomes paler, and gradually ceases, to be renewed again at

the expiration of another month. When once established, it most usually comes on without any other symptom than a sensation of fulness in the pelvic region, though some females experience some slight premonitory indications.

With the first appearance of menstruation, or shortly after, the female undergoes an important change; she loses her girl like propensities, and assumes more of the feeling and dignity of woman, the breasts become more fully developed, as well as the hips, her features become brilliant with freshness and health, her eyes become more sparkling and full of sentiment, her form becomes more beautiful, and her voice more sonorous and musical. The mons veneris is much developed and covered with hair; the uterus enlarges in all directions; the fissure between the lips of the os uteri becomes more distinct to the touch; and the ovaries increase in size and vascularity.

Menstruation, when not interfered with by disease or pregnancy, continues with great regularity to the fortieth or forty-fifth year, usually persisting for about thirty years; so that the most vigorous period of female life only, is confined to the process of child-bearing. When it ceases permanently, the period is called "the turn of life." Occasionally menstruation has been observed in females of advanced age; and, in some instances it has been arrested at a much earlier period than that just referred to.

It is a very unfortunate and much to be regretted fact, that mothers, as well as female guardians, keep a strict silence upon matters connected with menstruation, instead of instructing their daughters and wards, as soon as they approach the change from girlhood to womanhood. Mothers should not permit a false delicacy to prevent them from conversing with their daughters upon these important topics of health and life, informing them how to manage themselves at the menstrual term, so that they may escape the difficulties arising from exposures to cold, excessive heat, and other causes which may derange this function. Were this a customary duty for parents, much sickness and misery would be spared the sex annually.

The blood discharged at the menstrual term, issues from the lining membrane of the womb, and appears to be venous or

rather capillary blood, mixed with such uterine and vaginal discharges as may be present at the time. The ordinary menstrual fluid does not coagulate, unless it becomes so profuse, (as in menorrhagia,) as to wash away the acid vaginal discharges. But the menstrual fluid obtained free from the vaginal discharges will be found to coagulate, the clot separating from the serum in a few minutes.

Many persons, probably on account of the monthly return of the flow, have absurdly attributed menstruation to lunar influence; were this the case, all the females on one meridian would be apt to menstruate at the same time; instead of which we find females, on the same meridian, almost daily, either in the commencement, middle, or close of their catamenia. It has been discovered by several of our most eminent physiologists that the eggs or ovules of the female, which are continually being developed in the ovary, mature and become fit for impregnation, generally one at a time, rarely two or more, once in every twenty-eight days; that at the period of their maturity there exists a pelvic determination, a plethoric or turgescent condition of the reproductive organs, owing, probably, to irritation or excitation caused by the enlarged ovum pressing upon the ovarian stroma; that the stroma eventually ruptures, the ovum escapes and is conveyed through the Fallopian tubes into the uterus, being surrounded by the cells of the proligerous disk and the adjacent part of the epithelium of the Graafian vesicle. This condition of things is attended with a discharge of blood from the uterus, which is the visible indication of the ejaculation of a matured ovulum, and which, likewise, tends to completely alleviate and remove the turgid and excited condition of the generative organs.

Within that part of the ovary, or the sac, from which the ovum has escaped, a new body appears, termed the corpus luteum, which is seen more perfectly when the detached ovum is impregnated. It consists of a projecting, firm, round or oval body, rather larger than the former Graafian vesicle, with a stellate cicatrix on its top; this continues up to the fourth month of pregnancy, when it gradually disappears. If pregnancy does not occur upon the detachment of an ovule, the corpus luteum disappears much more rapidly.

No doubt women may sometimes be found who deposit an ovulum regularly without any hemorrhagic sign; and, on the other hand, sexual congress shortly previous to the detachment of an ovulum, may determine the immediate rupture of the vesicle containing it; and its discharge, as well as impregnation, may take place without the hemorrhage ensuing; but these do not disprove the general views. Females in whom the ovaries only are absent, never menstruate; those in whom the ovaries are present, but the uterus is absent, experience all the symptoms of menstruation every month, without the discharge.

The derangements to which the menstrual function is subject, as well as some morbid states of the system, which are frequently present in females, will now be considered.

AMENORRHEA.

Amenorrhea is the term applied to that condition of the menstrual function, in which its flow is interrupted or suspended. It is known by the names *Obstruction*, *Retention*, or *Suppression of the Menses*. It may occur under two forms, one, in which the discharge has never appeared, termed *emansio mensium*, or absent menstruation,—and the other, in which, after its appearance, it has become obstructed, termed *suppressio mensium*, or suppressed menstruation. Each of these will require a separate consideration.

Absent Menstruation. *Causes.* This may be owing to an absence of the ovaries, or of the womb, or closure of the vagina, and other defective formations, in which case but little relief can be obtained, except in those cases where the aid of surgery may remove, or properly alter the malformation. When there is no deficient formation, the amenorrhea may be owing to an inactive condition of the generative organs, or to an anemic or chlorotic condition of the system, in which case other symptoms will be present, which are peculiar to Chlorosis, and the patient must be treated for this latter disease, before any attempt be made to restore the menstrual discharge. In the absence of the above causes, the disease will usually be found owing to the habits of the female, being more common

among those who enervate the general system by a sedentary and indolent life, gross and luxurious diet, hot rooms, soft beds, too much sleep, &c.

Symptoms. Among those in whom the ovaries are absent, of course, no cure can be expected; the breasts will be imperfectly developed; there will be no sexual inclinations, no attachment to the opposite sex; the voice and general characteristics of the person will partake, as it were, of a combination of masculine and feminine peculiarities. Where the uterus only is absent, we may be led to suspect it by the menstrual symptoms appearing monthly without the hemorrhage. These mal-conditions are, however, very rare.

When all the organs are present, the symptoms manifested at the time when the menstrual effort comes on, will be, rigors, or alternate chills and flashings of heat, more or less pain in the back, extending to the loins and thighs, languor, debility, depression of spirits, uneasiness, aching along the thighs, weight or a dragging sensation at the lower part of the body, and, occasionally, a painful enlargement of the breasts, and a sense of uneasiness or constriction about the thyroid gland. Sometimes, severe headache will be present, with a fulness and throbbing in the head, intolerance of light and sound, pale countenance, derangement of the stomach and bowels, difficult breathing, and hysteria; these symptoms will vary and be more or less severe, according to the patient's constitution, and the particular circumstances attending the case. An examination per vaginam will find the cervix somewhat swollen;—but such examinations, as a general rule, are not justifiable. The physician, in all cases of amenorrhea, must remember, that pregnant unmarried females will often endeavor to deceive him, for the purpose of having an abortion caused by the means he employs to bring about the menstrual discharge. Where this is suspected, he should proceed with great caution.

Treatment. In all cases of absent menstruation, where the general health remains undisturbed, no treatment whatever should be undertaken, save good, nourishing diet, and plenty of exercise in the open air; it is only when the health suffers in these instances, that the aid of medicine is required. Many females have been injured for life, by the injudicious treatment

of friends or physicians,—interfering with medicines to force the menstrual flow, when their healths were excellent, and no medicinal measures were required.

When the health of the female is manifestly deteriorated, in connection with the menstrual absence, and the means recommended hereafter, exert no influence in establishing the discharge, the physician should, if possible, determine whether this be owing to malformation, defect of organs, or to the presence of other maladies. In the latter instance, the maladies, whatever they may be, must be removed previous to attempting a restoration of the menstrual flow. If there be an imperforate hymen, remove the difficulty according to the plan named on page 25. If the os uteri be closed by a thin membrane, this must be punctured. If the cervical canal be impervious, an artificial one must be made. If the vagina be imperforate, an artificial one must be made. *See page* 125. Any existing adhesions, or false membranes, may be overcome by endeavoring to separate them with the fingers, and in case of failure, the trocar or knife may be carefully employed. When the vagina is absent, and the os uteri cannot be detected, it has been advised to puncture the uterus through the rectum, and thus permit the fluid to escape. In these operations great care should be taken to prevent the parts operated upon from reuniting by adhesion, and this may be accomplished by the introduction of tents of sufficient size, or pledgets of lint. Where there has been a great accumulation of retained menstrual fluid, after its discharge, it will be well to keep the apertures made, in as clean a condition as possible, by injections of warm water two or three times a day; the bowels should also be supported by a broad bandage, and kept regular; the patient should exercise in the open air, and make use of the Compound Wine of Comfrey, and adopt every means calculated to invigorate the system.

If, however, none of the above difficulties be present, and there is likewise an absence of chlorosis, the case is one of simple amenorrhea, and must be treated as such.

The treatment will vary according to the condition of the patient; if she be of a full habit, it will be necessary to keep the bowels regular, by mild laxatives, giving an occasional

active cathartic, say every week or two, of the Compound Powder of Leptandrin; the whole surface of the body should be bathed every day or two with a weak alkaline solution, drying with considerable friction. About the time of the menstrual effort, warm infusions of herbs which exert an influence on this function should be administered, as of Tansy, Black Cohosh, Blue Cohosh, Life root, &c., and the Hot Air bath may be given, and repeated for a few nights at this period. One very important measure in the management of these cases, is exercise; the female should be made to take plenty of daily exercise, in the open air.

If the patient be nervous, weakly, or delicate, the bowels should be kept regular by the use of mild laxatives, as, the Powder of Rhubarb and Bicarbonate of Potassa, and she should take some tonic preparation, as the Compound Wine of Comfrey, or Compound Syrup of Partridge-berry. Her diet should be composed of good, nourishing, and easily digested food, avoiding fats and acids, and she should be made to take moderate exercise daily, in the open air.

Should there be much pain or suffering at the menstrual period, a warm fomentation over the bowels, of Hops and Tansy, in Spirits, will in most cases afford relief; but should this fail, anodynes may be given, as the Compound Powder of Ipecacuanha and Opium, or, Tincture of Gelseminum, Tincture of Belladonna, &c., giving these in small doses, and repeating them at short intervals, until relief is obtained. In very severe cases the loins, or lumbo-sacral region, may be cupped, with considerable benefit.

It will sometimes happen, however, that although the general health will be improved by the above means, the catamenial discharge will not make its appearance, in which case it will become necessary to make use of those means which are stated to exert a specific influence upon the womb. Among these are the following:—

1. The Iodine pill. This will be found more especially beneficial in those of a strumous or scrofulous diathesis.

2. Take of Caulophyllin, Aletridin, each, ten grains, Extract of Belladonna one grain; mix together, and divide into ten pills, of which one is the dose, to be repeated three times a day.

3. The Compound Tincture of Blue Cohosh.

4. Take of Podophyllin one grain, Carbonate of Iron eight grains, Cimicifugin four grains, White Turpentine a sufficient quantity to form the whole into a pill-mass; mix, divide into four pills, and administer one pill every four hours.

5. The Compound Tincture, or Solution, of Iodine, in doses of from ten to twenty drops in water, and repeated three or four times a day.

6. Take of Extract of Belladonna two grains and a half, Strychnia from half a grain to a grain, Alcoholic Extract of Black Cohosh twenty grains; mix, and divide into twenty pills, of which one is the dose, repeating it three times a day. As Strychnia acts with greater energy upon some persons than others, the quantity of it in the above pills must be proportioned to its effects on the system, which must not be directly appreciable.

Various other agents have been recommended, as Dewees' Volatile Tincture of Guaiacum; Decoction of Madder, or of Polygonum Punctatum; a mixture of Borax and Cinnamon, each, ten grains,—for a dose to be repeated three or four times a day; dry cups to the breasts; &c., &c.

These remedies are to be used daily, during the intervals between the menstrual efforts, and their influence will be materially aided, if in addition, a current of electro-magnetism be passed through the womb and ovaries, two or three times daily; continuing its application each time for about half an hour. *See Vicarious Uterine Leucorrhea, page* 165.

The second, third, and fourth preparations above named, are more useful in cases of a rheumatic or neuralgic tendency; the sixth, in cases accompanied with nervous depression, numbness of limbs, and a tendency to paralysis or chorea. In all these cases, it will be proper for the practitioner to ascertain, if possible, the precise pathological condition of his patient, and then prescribe the correct therapeutic measures, else his treatment will necessarily be empirical.

SUPPRESSED MENSTRUATION is the second form of amenorrhea, and is applied to those cases in which the menstruation has previously appeared; it may occur at any time

from the commencement to the cessation of the menses. When it occurs suddenly, it is called *acute amenorrhea*, and when gradually, *chronic amenorrhea.*

Causes. *Acute amenorrhea* is usually the result of a cold contracted during the catamenial discharge, as by getting the feet wet, lying in damp beds, or other exposures. It may also be occasioned by violent mental or physical disturbance during the menstrual period, from fever or other severe diseases setting in at that period, from sexual intercourse during the monthly flow, &c.

Symptoms. In acute amenorrhea, there is generally more or less fever, headache, thirst, nausea, quick pulse, &c.; or, the brain, lungs, bowels, womb, &c., may be attacked with inflammation. The symptoms, however, will be found to vary very much. The patient will be subject to attacks of fainting, hysterics, loss of voice, amaurosis, and cutaneous diseases, and sometimes severe neuralgic pains will attack the womb. Paralysis and apoplexy have followed a sudden suppression of the menses. This is the most serious form of amenorrhea in consequence of the secondary attacks. Hysteria may occur at the menstrual period, and be accompanied with as much pain and local suffering as the inflammatory condition of the parts in acute amenorrhea; the pulse, however, will be but little affected, and there will be an absence of the usual constitutional symptoms present in the latter affection. In cases of doubt, the safest course, will be to treat them at the commencement, as though they were inflammatory.

Treatment. This will be similar to that pursued in febrile or inflammatory diseases generally—the indication being to restore the discharge as soon as possible. For this purpose, warm hip baths, foot baths, or the Hot Air bath may be used, and repeated as often as they may be required. If the bowels are constipated an active cathartic must be administered, as the Compound Powder of Jalap, or Compound Powder of Leptandrin; and to relieve any pain in the region of the womb, a warm fomentation may be placed over the abdomen, of Hops and Tansy in Spirits; and the Compound Powder of Ipecacuanha and Opium, or, the Compound Tincture of Virginia Snakeroot, or the Tincture of Gelseminum, may be given in small doses,

and repeated at short intervals. Warm infusions of Pennyroyal, Liferoot, Tansy, Featherfew, or Motherwort, &c., may be drank freely. If the discharge be restored, great care should be taken to observe that it appears properly at the next menstrual period; and in the interval the patient may use the Compound Syrup of Partridge-berry; and for a few evenings previous to the next catamenial term, the Hot Air bath may be beneficially employed.

If the catamenial discharge is not properly restored, the difficulty may terminate in *Chronic Amenorrhea.* This, however, may be caused by other circumstances, as diseases of the womb, ovaries, or other organs, or from a gradual loss of health.

Symptoms. Chronic amenorrhea, when not the result of an acute attack, may come on gradually, the discharge being uncertain and irregular in its appearance, but slowly diminishing until it ceases entirely; or, there may be a white fluid alternating with the red. There will usually be pains in the head, back, and side, irregular and deficient appetite, a gradual failure of the vital powers, ending in a confirmed deterioration of health, most favorable to an attack of some of the fatal organic diseases peculiar to the climate in which the patient resides.

Sometimes menstruation does not occur at all after parturition and lactation; it must not be forgotten that this may be owing to a closure or obstruction of the cervical canal, the os uteri, or, the vagina, as a consequence of inflammation of these parts, subsequent to delivery. The finger in the vagina, or a small bougie passed into the canal of the cervix, will determine the matter.

Treatment. We must be careful to ascertain that the case is one of chronic amenorrhea, and not of pregnancy, before attempting treatment. And, again, should the suppression occur at that period when the "turn of life" is expected, great care should be taken not to use too active medication, but only to palliate severe symptoms, else much mischief might be done.

In all cases, great care should be used to discover the pathological conditions giving rise to the suppression, treating these according to their indications, before attempting to relieve the suppression. As a general rule, the removal of the condition producing the amenorrhea, will be succeeded by the return of

the catamenia. When, however, these conditions cannot be satisfactorily determined, it will be the best course to prescribe such means as will tend to strengthen and improve the general health of the patient. Thus, tonics and alteratives will be beneficial; the Compound Syrup of Stillingia with Iodide of Potassium may be given three times a day, in conjunction with a pill composed of equal parts of Aletridin, Caulophyllin, and Sulphate of Iron; make three grain pills, and administer one every four hours. In some cases, considerable benefit will be derived from the use of the Compound Tincture of Tamarac, taken in connection with the above pills, or with those named on page 268, No. 4, in the treatment of Absent Menstruation.

The bowels should be kept regular, the surface of the body bathed every day or two with a weak alkaline solution, rendered slightly stimulating by the addition of alcohol, and once in every week, a Hot Air bath must be taken. Exercise in the open air, proportioned to the strength of the patient, is a very important measure, and must by no means be neglected; indeed females, as a general rule, do not have sufficient exercise, and a great part of their difficulties will be found owing to those sedentary and unnatural customs which society unjustly imposes upon them. They are home, home, all the time, or should they venture abroad daily for exercise, that they may benefit their own health and thereby secure robust and healthy offspring, they are insulted and discouraged on almost every side, by that epithet so disgraceful to its utterers, "street-yarn spinners." Nutritious and digestible food must be used, carefully avoiding every article which disagrees with the system. In obstinate cases currents of electro-magnetism may be passed through the uterus daily; and with some, the Compound Tar Plaster placed over the sacrum, or low down on the spinal column, and kept discharging for some time, will be found an excellent auxiliary measure.

It may be proper here to refer to a condition known by the name of "*vicarious menstruation*," in which there is a monthly discharge of blood from some other part than the womb, and which appears to be a substitute for the uterine menstrual discharge. Thus, this vicarious discharge may take place from the pulmonary or intestinal mucous membrane, from the nip-

ples, gums, umbilicus, skin, &c., and may occasionally be so profuse as to amount to a hemorrhage. It may continue for several successive menstrual terms, and then be succeeded by one or more true menstruations, or it may alternate with the catamenia; the danger arises from the hemorrhage, when this is copious. It is also stated that excessive salivation, or profuse sweating, has occurred as a substitute for the sanguineous discharge. The cause of this freak of nature is not known. It may be determined by its monthly appearance, the menstrual symptoms, and the amenorrhea present. It is rarely dangerous. When it occurs at the cessation of menstruation, it is of much benefit, preventing serious local congestions.

The *treatment* is, to arouse the uterus to action, by stimulating enema, cups to the sacrum, warm pediluvia, fomentations to the hypogastrium and vulva, hot air bath, &c.; and during the intervals between the discharges, administer tonics, as preparations of Iron, Cimicifugin, Caulophyllin, Senecin, Aletridin, &c. The bowels must be kept regular, and the surface of the body frequently bathed, drying with considerable friction. Exercise in the open air, with nutritious and digestible diet, are likewise indicated. If these fail, agents must be used which exert a direct influence upon the uterus, as electro-magnetism, &c. Generally, the uterus will, after a time, resume its normal function, and all that is necessary will be to carefully watch the patient, especially when the discharge proceeds from some important organ, pursuing the usual treatment for hemorrhage from such organs, when it becomes copious.

Not unfrequently, patients will present, in whom menstruation is not suppressed, but appears at irregular and uncertain periods, varying considerably in the quality as well as the quantity of the discharge. The intermenstrual period may be shorter or longer than usual, or, these conditions may alternate with periods of healthy menstruation. In these cases, if the general health remains unaffected, the only emmenagogue required is pure air, active exercise, and an attention to diet, the surface of the body, and the state of the bowels and kidneys.

But, if the general system appears to suffer therefrom, as indicated by headache, constipation, inactivity of the digestive

organs, paleness of countenance, pains in the back and other parts, &c., these symptoms occurring more especially at the catamenial term, then, in addition to the above, medicines must be administered which will impart tonicity to the organs concerned in the menstrual function, as preparations of Iron, Aletridin, Senecin, Caulophyllin, &c.

Amenorrhea associated with, or originating from, mental disease or depression, as love, fear, jealousy, &c., will seldom yield to medicine, until the moral condition of the patient has been much improved. In these cases, the mind must be especially attended to, using every kind, gentle, and persuasive means to overcome its abnormal action.

DYSMENORRHEA.

Dysmenorrhea, Painful or Difficult Menstruation, are the terms applied to menstruation which is attended with more or less distressing pain. It appears to be owing to a morbidly irritable state of the uterus, or of the nerves connected with it. It is sometimes very unyielding in its nature, continuing until the "turn of life." The pain may be moderate, or it may be very violent, rendering the patient a permanent invalid, from its repeated shocks to the constitution. It may occur shortly before the discharge appears, or simultaneously with it, and sometimes does not come on until near the termination of the discharge. The character of the pain and the accompanying symptoms vary according to the constitution of the individual; and from this circumstance, the disease has been divided into three species, viz: the neuralgic, the inflammatory, and the mechanical.

Causes. Dysmenorrhea may be caused by cold taken during menstruation, or subsequent to a miscarriage or delivery; or, it may follow some sudden or severe shock, or mental emotion occurring at the menstrual term. It is, undoubtedly, frequently owing to, or associated with rheumatism, or neuralgia of the uterus, giving rise to those severe symptoms termed, by Dr. Gooch, *Irritable Uterus*. Dysmenorrhea may be mistaken for an abortion, but may be distinguished from it, by a knowledge of

its previous monthly character, and by the amount of blood being less than in an abortion. The *neuralgic* variety of dysmenorrhea is generally confined to nervous females, of a delicate habit of body, and those who are rather tardy in menstruating. The *inflammatory* is more common to plethoric females, and those of sanguine temperament. *Mechanical* dysmenorrhea is owing to a narrowing or constriction of the canal of the cervix, which may be the result of inflammation,—or, a long continued prolapsus, or flexion of the womb.

Symptoms. The *neuralgic* form of dysmenorrhea is not accompanied with congestion nor inflammation. The menstrual flow is either preceded or succeeded by a more or less intense headache, frequently confined to one side of the head, or presenting the well known characters of "clavus hystericus;" this headache sometimes alternates with severe pain in the uterine and pelvic regions, which extends to the back, and down the inside of the thighs. The pain may be constant, or may occur in paroxysms, with intervals of ease, and it is frequently so violent as to be almost insupportable. It commonly lasts from six to twelve hours, when the appearance of the flow relieves it in a great measure. At times, the abdomen is very tender, so that the slightest touch will give rise to pain. The discharge may be more than natural, or it may be diminished, paler than usual, and mixed with clots; and, sometimes, a thin membrane is passed in strips or shreds, the sufferings of the patient being much aggravated. This membrane is smooth on one surface and rough on the other, and is similar in character to the deciduous membrane formed shortly after impregnation. With some females, the breasts become painful several days previous to the menstrual flow. Hysteria is frequently present. Married females suffering from this form of dysmenorrhea, are apt to suffer considerable pain during coition. The general health, ordinarily, suffers but little, though if the disease be allowed to progress without treatment, or if it be unyielding to medicine, the health will ultimately become permanently impaired.

The subsidence of the pelvic pains is sometimes followed by neuralgic pains in the face, teeth, or other parts. And not unfrequently the pains are so severe, continuing during a part

or the whole of the intermenstrual period, as to keep the patient constantly in a recumbent position.

The *inflammatory* or *congestive* form of dysmenorrhea presents symptoms similar to the preceding, but, in connexion with these there will be constitutional symptoms, generally preceding the flow; as, flushed face, hot skin, rigors, and a full, bounding, and quick pulse, often over one hundred beats in a minute. The fever may run so high that temporary delirium will supervene. The menstrual flow is usually more abundant than in the neuralgic variety, and when it occurs, all the severe symptoms become relieved. The dysmenorrheal membrane named in the preceding variety may also be met with in this. A vaginal examination will detect a swollen and congested condition of the cervix, with great heat of the parts; the os uteri being more open than natural. Inflammatory dysmenorrhea is frequently accompanied with ulceration of the cervix, uterine leucorrhea, or uterine prolapsus; nor are the other forms exempt from these. A speculum will enable the practitioner to detect the ulceration, &c., and they must be removed by appropriate treatment before a cure of the dysmenorrhea can be effected. During the intervals between menstruation, the patient's general health is but seldom affected, save in a few rare instances.

The *mechanical* form of dysmenorrhea presents symptoms similar to the preceding varieties, the severity of which will depend upon the cause, and the attending circumstances.

The symptoms in the first two varieties of painful menstruation may vary very much; not unfrequently cases will be found presenting a class of symptoms, in which both varieties will be combined. In all the forms of dysmenorrhea, sterility is the general rule, pregnancy the exception. As dysmenorrhea may be due to, or accompanied with some disease which renders it unyielding to treatment, as fibrous uterine tumors, anteflexion or retroflexion of the uterus, ulceration of the cervix, or narrowing of the os uteri, &c., it is always proper for the physician to make a careful examination per vaginam and with the speculum, if the dysmenorrhea should obstinately continue after several months of treatment.

Treatment. The indications of treatment in all the forms

of dysmenorrhea, are first, to lessen the pain during an attack; second, to prevent its subsequent return by proper treatment during the intervals between menstruation.

The *neuralgic* variety may generally be relieved by anodynes with counter-irritation. A warm hip bath taken every day, for one or two days previous to menstruation, and especially at the time when the pain commences, will be found of great service; in severe cases, it may be repeated two or three times a day, following its use by the internal administration of anodynes,—the patient in the meantime being kept quiet in the recumbent position. Among the internal remedies I have found much benefit from the use of the following preparation: Take of Sulphate of Quinia twenty grains, Elixir Vitriol one fluidrachm, mix and dissolve the Quinia, and then add Tincture of Stramonium, (or of Belladonna) four and a half fluidrachms, Tincture of Black Cohosh, nine fluidrachms; of this fifteen drops in a teaspoonful of water is the dose, which may be repeated every hour or two, as the urgency of the case may require. Or, a grain or two of Sulphate of Quinia with one fourth of a grain of Sulphate of Morphia, may be given for a dose, and repeated as required. The following will occasionally be found useful:—Take of Oil of Valerian, Ethereal Oil of Lupulin, each, two fluidrachms, Sulphuric Ether half a fluidounce; mix. The dose is from thirty to sixty drops every two or three hours in a wineglassful of a warm infusion of Camomile flowers. In connexion with these, Firing, Croton Oil Liniment, or Mustard may be applied to the lumbo-sacral region; and in some cases, the Compound Plaster of Belladonna may be worn for a time with advantage. If the use of anodynes affords no relief, the means named for the treatment of the inflammatory form may be adopted.

In the *inflammatory* variety of dysmenorrhea, means must be adopted to relieve the congested condition of the uterus and pelvic viscera, and cause a determination to the surface. In very severe cases cupping to the lumbo-sacral region will be useful in relieving the pain, but, most commonly, the following measures, in conjunction with Firing, Croton Oil Liniment, &c., as directed in the preceding variety, will be found to answer.

To relieve the pain during the attack, a hot fomentation of Hops and Tansy in spirits must be placed over the abdomen, frequently renewing it, and internally, the Compound Powder of Ipecacuanha and Opium may be given; or, what I have found to answer a most excellent purpose, the Tincture of Gelseminum, in doses of from half a teaspoonful to a teaspoonful or two, every half-hour until the patient experiences the peculiar effects of the remedy. When the pain is very severe from three to five drops of the Tincture of Aconite may be added to each dose of the Gelseminum. In many cases, a Hot Air bath affords almost instant relief. In some cases the Compound Tincture of Virginia Snakeroot will be found to have a very excellent influence. If the bowels have a tendency to constipation, they should first be acted upon by some purgative medicine, previous to the administration of the other agent. Equal parts of Tinctures of Colchicum seed, Black Cohosh, and Opium, have been given, in half teaspoonful or teaspoonful doses, every hour or two, with excellent results; it will be found more especially useful in rheumatic habits, and those cases in which the urine contains an abundance of urates. The Acetate of Ammonia in doses of from forty to sixty drops, three or four times a day, has been highly recommended as a sedative in this affection; I have used it in a few cases only, and with benefit. In those instances where the membranous shreds are passed off, a powder, composed of Ergot three grains and Camphor five grains, administered two or three times a day, conjoined with draughts of a warm infusion of the Bark of Cotton root, has afforded considerable relief.

During the intervals between menstruation, the following means must be employed to prevent a return of the disease: Take of Camphor one scruple and a half, Sulphate of Quinia two scruples, Extract of Stramonium one scruple, Aletridin a sufficient quantity to form the whole into a pill mass; mix, and divide into eighty pills, of which one may be given every four or five hours. Another valuable pill is composed of Extract of Conium Maculatum one drachm, Extract of High Cranberry bark, Red Oxide of Iron, each, two drachms; mix, and divide into thirty pills, of which one is the dose, to be repeat-

ed three times daily. I have known the long-continued use of the Compound Syrup of Partridge-berry to cure many very severe cases. Dewee's Volatile Tincture of Guaiacum, Borax, preparations of Iron and Manganese, &c., have been employed to prevent a return of the painful menstruation, as well as to allay the suffering at the catamenial period, and, it is stated, with success. I can say nothing concerning their effects in this disease, from experience.

If ulceration of the cervix, leucorrhea, retroflexion, or prolapsus of the uterus, be present, they must be removed by appropriate treatment before any benefit can be expected to result from the other measures.

The bowels must be kept regular, the surface bathed daily, and the diet must be nutritious and easy of digestion. An occasional Hot Air bath will be found of much benefit. Exercise in the open air is very important, and must not be neglected. In some old and obstinate cases the intermitting use of the Compound Tar Plaster will frequently be useful.

The *mechanical* variety of dysmenorrhea is very rare; it can only be remedied by the cautious and gentle introduction of bougies passed through the whole length of the cervical canal, including the inner os uteri, commencing with one of small size, and gradually increasing it until the canal is sufficiently dilated. These must be allowed to remain in for only a few minutes at a time, and should be reapplied in two or three days, according to the irritability of the patient, and the symptoms produced. Any inflammatory symptoms of the part caused by their employment, will give way to rest and quiet, keeping the bowels regular, and an injection of warm water into the vagina two or three times a day. Some writers recommend incisions of the cervix in connection with dilatation; I can see no necessity for them. After a bougie of proper size can be passed, and the symptoms of dysmenorrhea still continue, treat the case the same as named in the preceding varieties, according to its indications.

W. Tyler Smith refers to a form of this affection, which he terms "Vaginal Dysmenorrhea," the catamenial discharge being accompanied with vaginitis. The pain complained of is situated in the vagina, with heat, throbbing, pain in defecation and

micturition, and irritation of the lower part of the vagina from contact with urine. The vagina is denuded of its epithelium, which is discharged in large flaky masses. The treatment will be similar to that named for Inflammation of the Vagina, on page 102, during the menstrual flow, and like that for Vaginal Leucorrhea, on page 107, during the intervals.

MENORRHAGIA.

Menorrhagia, or Excessive Menstruation, are terms applied to all large discharges of blood which take place from the womb, at other times than during pregnancy or labor. The term Uterine Hemorrhage, or Flooding, is applied to all discharges occurring during labor, pregnancy, or which are owing to ulcers, polypi, wounds, &c., of the womb. Menorrhagia is a malady to which all females are liable during their menstrual life; and, some writers state that young girls prior to puberty, and females who have passed the "turn of life," are sometimes attacked with it,—but as, in these instances, it is generally due to some uterine disease, it would be more proper to consider it a hemorrhage.

Menorrhagia may exist in two ways: the menstrual flow may appear every two or three weeks, instead of every four, or it may occur at the regular time, but in profuse quantity, or, it may occur at unexpected and uncommon seasons, as during pregnancy, or in the early months of suckling.

Causes. Menorrhagia may be due to some constitutional cause, or to some abnormal condition of the reproductive organs. Among the first may be named, an altered condition of the blood, as for instance, in scrofula, in Bright's disease, or from prolonged lactation, &c.; a plethoric state of the vessels of the abdomen; torpidity of the liver; great debility of the system, &c. Among the second, are great susceptibility of the reproductive organs; ovarian irritation; uterine congestion; over-excitement of the sexual organs; relaxation of uterine tissue from exertions made too soon after delivery, or a miscarriage; uterine displacements; and diseased conditions of the womb. Menorrhagia will be found to vary in character,

according to its exciting causes, and is, hence, divided into two forms, viz: the *active*, and the *passive*.

ACTIVE MENORRHAGIA. Causes. Active menorrhagia may be occasioned by cold contracted at the menstrual period, or by lifting heavy weights, tight lacing, strong passions, abuse of stimulants, excessive venery, inordinate use of strong tea and coffee, strong and prolonged mental excitement, &c.

Symptoms. In active menorrhagia, beside the profuse discharge, there will be rigors alternating with flushings of heat, pains in the back and loins, quick pulse, and other symptoms of febrile excitement. The pains in the pelvic region and back are frequently relieved upon the escape of blood, which is of a florid, red color. The discharge often continues from thirty to forty days, but in most cases it ceases in from eight to ten days, reappearing at the next catamenial period. The periodical character of the discharge will serve to distinguish it from uterine polypus, though it may exist in connection with this morbid growth.

Treatment. If the patient be of full habit, not much treatment will be required, unless it be found that the constitution is suffering from the discharge. The principal means to check it, are, to keep the patient in a horizontal position, observing the utmost quietness; the bowels must be kept regular by mild laxatives, and any straining at stool must be avoided. When severe febrile symptoms are present, as a full pulse, flushed face, headache, &c., it will be necessary to produce moderate catharsis by some saline purgative, at the same time using sedatives and anodynes to allay inflammation and pain, as, Tincture of Aconite, Tincture of Henbane, Compound Tincture of Virginia Snakeroot, &c., aided by bathings of the surface, and cooling diuretics. Nitrate of Potassa five grains, dissolved in half a fluidounce of water, to which add ten or fifteen drops of Tincture of Digitalis, taken for a dose, has proved very serviceable; it may be repeated three or four times a day. Cloths dipped in vinegar and water, and applied to the genitals, will be of service in lessening any heat of the parts, as well as diminishing the discharge. When the inflam-

matory symptoms have been subdued the bleeding will be arrested; if not, astringents must be given. If the inflammation is not allayed, we must be prepared to combat it at the next menstrual period, employing, during the interval, means to prevent its recurrence, if possible; as, frequent bathings of the surface, Hot Air bath, hip-baths, moderate diet, mild exercise, regularity of bowels, &c., &c.

Astringents must by no means be administered until all inflammatory symptoms have disappeared, else some lasting mischief may result; nor can they be of any permanent service if organic disease be present. When they are indicated, ten or twenty grains may be given every ten or twenty minutes, or, every hour or two, according to the urgency of the symptoms, of a mixture of equal parts of Alum, Geranium, and Charcoal; or, Nitre ten grains, Alum five grains, Kino one grain and a half, may be triturated together for a dose, repeating it three or four times a day. The Oils of Fireweed, and Fleabane, will frequently be found serviceable. I have frequently succeeded in checking the flow by administering every hour or two, a powder composed of Capsicum five grains, Opium half a grain, Ipecacuanha one grain; mix. A combination of Tincture of Cinnamon bark and Tincture of Yarrow, equal parts, taken in table-spoonful doses, and repeated three times a day, has often proved serviceable; a little Oil of Cinnamon may be added to cover its disagreeable taste. Warren's Styptic Balsam has been found prompt and effectual in many instances. In quite a number of cases recently, I have found a Tincture of the inner bark of Cotton root, made in Sweet Spirits of Nitre, a very effectual remedy, in doses of from thirty to sixty drops, three, four, or five times a day. The Perchloride of Iron in doses of five or ten drops in a little water, will be found a very valuable agent, in cases where it does not produce nausea, or other unpleasant symptoms. Solution of Gallic Acid, Infusion of Matico, and Tincture of Muriate of Iron, have also proved of efficacy, when administered internally.

While using either of the above remedies, the patient may drink freely of some astringent decoction, as, one made of equal parts of Beth root, Blackberry root, and Geranium; or,

other vegetable astringents. If the flow be very profuse, Hemastasis may be adopted with advantage. If much pain be present, a mixture of Sulphate of Morphia one-fourth or one-eighth of a grain, Capsicum five grains, Rosin five grains, may be administered every two or three hours in some Blackberry Syrup.

During the intervals between the flow, measures must be taken to prevent its return; the patient should be kept quiet; the diet should be spare but nutritious; if married, she should live apart from her husband for a time; and the bowels, as well as the surface, should be attended to, as in the preceding forms of menstrual derangement. The astringent decoction above named may be continued, or some other used as a substitute, and the following may be administered daily:—Take of Sulphate of Quinia ten grains, Extract of Belladonna three grains, Extract of Rhatany forty grains; mix, and divide into twenty pills. The dose is one pill, to be repeated three times a day.

PASSIVE MENORRHAGIA may be the result of the active form, or it may have been passive from its commencement, as is apt to be the case among females of weakly, irritable, and delicate habits. It is a more serious form of hemorrhage than the active, and if not speedily arrested, may assume a formidable character.

Symptoms. In the passive form of menorrhagia the blood discharged is dark-colored, resembling venous blood; the strength of the patient becomes rapidly reduced, the countenance pale, the pulse quick and feeble, the extremities cold, and sometimes the whole surface of the body; a distressing sensation of faintness is generally experienced, giddiness, and occasionally nausea and vomiting; and a very common symptom is a sense of weight and pain in the head, especially over the eyebrows and forehead. In the more severe and dangerous forms, difficult and laborious breathing will be present.

Treatment. As in active menorrhagia, various agents may be required before any benefit will be experienced. In very mild cases, the Tincture of Cinnamon given in teaspoonful doses every hour or two, in a wineglassful of sweetened water,

will be found of service. The tincture of Cotton-root bark made in Sweet Spirits of Nitre, as named in the preceding form, will be found of great advantage in many instances. The preparation of Nitre, Alum, and Kino, named in the preceding variety, will also prove beneficial. Frequently, even in some very severe attacks of menorrhagia, I have derived much benefit from the use of the Tincture of Muriate of Iron, in doses of from fifteen to twenty drops, every half-hour, hour, or two hours, according to the urgency of the case, administering each dose in about half a gill of water. Warren's Styptic Balsam has been used with good results in many cases. The Perchloride of Iron is very useful, being given both at the menstrual term, and during the interval; it removes the anemic condition of the patient, at the same time acting as an astringent. The following will often prove very effectual in arresting the flow, with many females:—Take of Tincture of Cinnamon, Tincture of Rhatany, Spirits of Turpentine, each equal parts: mix. The dose is from half a teaspoonful to a teaspoonful, every hour or two, in some Port Wine, or other convenient vehicle. Another very valuable preparation, is composed of Tincture of Cotton-root bark, Tincture of Ergot, and Tincture of Cinnamon, each, equal parts: mix. Dose, the same as the preceding.

In very severe cases, when there is not too great a depression of the vital forces, cold vinegar and water may be applied to the parts on cloths, but if there is much depression, with coldness of the whole surface of the body, warmth must be applied to the feet, knees, arm-pits, &c., by means of bottles of warm water, warm bricks, irons, &c. Sometimes, when the discharge is very profuse and prostrating, it may become necessary to inject a solution of Alum, or other astringent, into the womb; this course has often proved effectual in checking the flow; but great care must be taken not to use too much force in passing the injection into the uterine cavity, lest it escape through the Fallopian tubes into the cavity of the abdomen, and occasion serious inflammation of the peritoneum. A soft piece of sponge, or a number of soft pieces of linen, muslin, or silk, moistened with some astringent fluid, and passed into the vagina so as to plug it up, will, by causing a clot to form

around the openings of the bleeding vessels, prevent, at least for some time, any further effusion. But the plug thus made must not be removed too soon, or the hemorrhage will recur—it should remain for three or four days. If it causes bearing-down pains, a desire to stool or to urinate, it must be removed. During the whole period of the attack, whatever may be the treatment pursued, it will be proper for the patient to drink freely of vegetable astringent decoctions.

The bowels must be kept regular by gentle laxatives, and the diet should be nutritious, allowing wine, ale, porter, &c., if the patient be much debilitated. During the intervals between these profuse menstrual discharges, means should be used to prevent, if possible, the menorrhagia; for this purpose the Compound Wine of Comfrey may be given, and the patient may drink freely of a decoction of some vegetable astringent, as Blackberry root, Beth root, &c., and the same may be injected into the vagina several times a day. When much debilitated the Sulphate of Quinia may be used in combination with Cimicifugin, or some preparation of Iron. Compounds of Iron and Manganese have sometimes proved serviceable in the anemia occasioning, or following, menorrhagia.

It may be remarked here, that when organic disease is associated with menorrhagia, it must be treated according to the indications, before any permanent cessation of the bleeding will take place.

CHLOROSIS.

Chlorosis, or Green Sickness, is a disease common to females, especially at the age of puberty, and is very apt to be associated with a retention of the menses; though this may and does frequently occur without any chlorotic tendency.

Causes. Chlorosis may be occasioned by any circumstances that may produce anemia by interfering with the digestive and assimilative processes. Thus, it may be owing to indigestion; to living in low, damp, and cold situations, secluded from the rays of the sun; bad food; late hours; excessive use of vinegar, green fruits, and all crude articles; indulgence in warm drinks; want of exercise; and a sedentary, lazy, and

voluptuous mode of life. Females of rapid and premature growth, those of a weak, delicate constitution, of a scrofulous habit, or of a nervous temperament, are more especially liable to it, as well as those who practice masturbation, who labor under great depression of mind, who are affected with some menstrual derangement, and who continue for a long time in a state of widowhood.

Symptoms. Chlorosis is characterized by a state of melancholy and disposition to inactivity; the female becomes silent and gloomy, frequently sighing involuntarily, or shedding tears without cause; the countenance becomes pale, of a greenish tint, and bloated; the eyes languid, and the eyelids swollen, with a dark areola around them, especially in the morning; the skin is dry and cool, and has a flabby or doughy feel; the pulse is frequent and easily compressed; the breathing is hurried or laborious; the digestive functions deranged; the bowels costive or irregular; the stools sometimes become white and hard, at other times fluid; the sleep is disturbed, and the dreams unpleasant; the intellect becomes dull, and the mind is occupied with fanciful notions or projects; headache is usually present; ringing of the ears; the face cold; the nostrils dry; neuralgic pains, and palpitation in the neighborhood of the heart or stomach. The tongue is generally coated white, and acid regurgitations take place frequently, with nausea, especially in the morning. There is often an accompanying cough of an irritable and distressing nature, leading the friends to suppose the patient is laboring under consumption. Sometimes dropsical swellings occur in various parts of the body, or the patient may be attacked with St. Vitus' Dance, hysterics, or epilepsy. Leucorrhea is generally present with a retention or suppression of the menstrual discharge; or, if any fluid escapes monthly, it contains but little coloring matter, and less fibrine than usual. All the above symptoms will not be present in any one patient, but a great proportion of them will; and they will vary in their character according to the circumstances attending each case.

A peculiarity of this disease is the wonderfully capricious character of the appetite, sometimes exhibiting a strong desire for acids, at others, greedily devouring substances having no

nutritive properties whatever, as earth, chalk, ashes, charcoal, &c. If the disease is allowed to progress without any beneficial treatment, severe pain attacks the head, mostly in the back part; the abdomen becomes swollen and hard; the difficulty of breathing, palpitation, fainting, and debility increases; thirst becomes annoying; diarrhea ensues, with hectic fever, rapid emaciation, and death.

If auscultation be made along the carotid arteries, a bellow's sound, or sound resembling the noise made by a humming top, will be observed. These sounds may also be observed along the subclavian arteries, and sometimes in the crural. This noise often disappears and returns again, alternately. If the artery be compressed with the stethoscope it disappears; if light compression be made, a kind of roaring noise is observed. This sound is not peculiar to chlorosis, being observed in other affections associated with an alteration in the character of the blood. In chlorosis, the specific gravity of the blood is diminished, there is an excess of water or serum, and a diminution of red corpuscles; the blood is thin, paler than natural, and coagulates feebly.

Treatment. In chlorosis, there is a general debility of the whole nervous system, accompanied with an unhealthy condition of the blood, which is very deficient in iron and the red globules. The treatment, therefore, must be directed to both of these conditions, and no permanent benefit can be expected, unless the medicinal measures be assisted by a strict attention to the hygienical. It is very important that the patient be removed from all causes which may predispose to the malady, transferring her from an improper atmosphere to one pure, dry, and moderately warm. She should be made to exercise every day, no matter how averse she may be to it,—any indulgence in this matter may lead to a fatal result. Exercise *must* be taken, it is imperatively necessary; walking, riding, swimming, ball-playing, boat excursions, and calisthenic exercises, according to her capability, must be practiced. If her friends are able, traveling will be of much advantage, in consequence of the change of scenery, air, exercise, and other circumstances tending to keep up an excitement of both mind and body. A visit to some chalybeate springs, with a free use of the water,

will be found of great benefit. Tight corsets, and all tight ligatures on any part of the body, must be forbidden. The hours of sleep must be regulated, having certain hours for retiring to bed, and for rising; never allowing the sleep to exceed nine hours. Sleeping in the day must not be allowed. The bed occupied by the patient must be neither too warm nor too soft—a mattress is to be preferred—a feather-bed is abominable. The diet should be generous and easy of digestion, consisting of farinaceous vegetables, ripe fruits, bitter and aromatic plants, fresh eggs, roast meats, &c. During meals, some Madeira or Champagne wine may be drank, or even good French brandy, ale, porter, &c. For a common drink, some chalybeate water should be preferred; tea and coffee should not be used.

As a medicinal treatment, the bowels should be kept regular, but not actively purged; the Compound Pill of Leptandrin may be used for this purpose, and if constipation be very obstinate, one-twentieth of a grain of Extract of Nux Vomica may be added to each pill, provided that not more than two pills are required every night for a dose. The surface of the body should be frequently bathed with a weak alkaline solution, to which some Alcohol is added, in order to excite the action of the capillary vessels, invite the blood into them, and promote perspiration. A Hot Air bath every week or two, will be of great benefit. Flannel should always be worn next the skin; and daily frictions with a coarse towel, aided by all other means to bring about a healthy condition of the capillary system, should be persevered in. Acidity of the stomach may be overcome by Bicarbonate of Soda, or Potassa, or by Magnesia, aided by vegetable tonics, to impart tone to this organ, as Golden Seal, Swamp Milkweed, Quassia, Gentian, &c., which may be given in infusion or extract.

To change the condition of the blood, some preparation of Iron must be given, as the Sulphate of Iron, Carbonate of Iron, Tincture of Muriate of Iron, &c., and in scrofulous patients the Iodide of Iron. The following have been used with good results:—1. Take of Carbonate of Iron five drachms, Assafetida seventy-five grains, Podophyllin nine grains; mix, and divide into twenty-five powders, of which one is a dose, to be

repeated three times a day. 2. Take of Sulphate of Iron twenty-four grains, Sulphate of Quinia twelve grains, Sulphate of Morphia one grain and a half, Extract of Gentian a sufficient quantity to form the whole into a pill-mass; mix, and divide into twelve pills. The dose is one pill, to be repeated three times a day. 3. The Compound Pills of Ferrocyanuret of Iron. 4. Dr. T. C. Miller considers chlorosis to be a disease originating in the nervous system, and the digestive, circulatory, and menstrual derangements which accompany it are merely secondary results. He prescribes the following:—Take of Iodide of Iron, Extract of Gentian, each, one drachm, pulverized Savin leaves, pulverized Ignatius' Bean, each, ten grains; mix, and divide into sixty pills. Two of these pills may be given at a time, repeating the dose three times a day, at the same time applying frictions with Tincture of Camphor along the spinal column, and to the extremities. 5. Citrate of Iron, compounds of Iron and Manganese, Tartrate of Iron, &c., have all been used, and with more or less advantage.

Occasionally marriage cures chlorosis. The various unpleasant symptoms which may present from time to time, must be met according to their indications.

CESSATION OF MENSTRUATION.

Cessation of Menstruation generally occurs after the menstrual function has been performed for thirty or thirty-five years, or about the forty-fifth or fiftieth year of life, and is always looked upon by females with some degree of anxiety. In consequence of the difficulties which occasionally develop themselves at this time, it has been variously called the "critical age," the "turn of life," the "change of life," &c.

Symptoms. Among healthy females it is not common for them to suffer much,—they generally become stouter, and the abdomen and breasts frequently enlarge to such an extent as to lead them to think they are pregnant. The discharge usually diminishes gradually, assumes a paler color, and eventually ceases permanently; or it may occur at uncertain, or distant periods, or alternate with a white discharge. Some-

times there will be a profuse bloody discharge, and the function becomes suspended for the remainder of life.

Among delicate females, and those who have suffered from previous diseases of menstruation, it is not uncommon to meet with excessive menorrhagia, or severe and repeated attacks of uterine hemorrhage, jeopardizing life. The same may be said of those who have been intemperate in their passions and pleasures. The symptoms attacking these vary considerably; much pelvic irritation, with a bearing down sensation, a desire to stool, or a forcing backwards, frequent inclination to urinate, heat and smarting of the parts, and tenderness of the vagina, are very apt to be present. A troublesome itching of the parts of generation is a common accompaniment. The person becomes irritable, uneasy, restless, with more or less considerable changes of the moral and mental dispositions. With some, the skin loses its color and suppleness, becomes sallow and wrinkled, the hair falls off, or turns grey, the breasts, at first flaccid and pendulous, finally disappear, and the voice becomes masculine.

At this time, various diseases are apt to become manifested, some of which may probably have existed for some time in a latent state, as, vertigo, hysterics, colic, piles, cutaneous eruptions, ulcers of the legs, hemorrhages from different parts, inflammations of various organs, dyspepsia, palsy, apoplexy, insanity, cancer of the womb, profuse sweats, &c., &c.

Treatment. Generally, but little else is required in the treatment, than to keep the bowels regular, the skin clean and healthy, adopt a light, nutritious diet, and proper regimen, and to avoid exposure to cold, or any causes which may excite local disease. When the discharge ceases suddenly, or when there is giddiness, or occasional pains in the head, a mild purgative may be taken, as the Compound Powder of Jalap, or the Compound Powder of Leptandrin, and this may be repeated whenever the symptoms require. If menorrhagia is present, treat it as already recommended, as well as hemorrhages from various organs. When there is a tendency to secondary attacks, the disease which is developed must be treated as though it were a primary affection. In most cases where there is a tendency to secondary diseases, alteratives will be required, and none

will be found to excel the Iodine pill, in conjunction with the Compound Syrup of Stillingia. Any nervous derangement must be combatted with stimulants, antispasmodics, or sedatives.

HYSTERIA, OR HYSTERICS.

Hysteria, or Hysterics, is a spasmodic affection common to females, and very rarely met with in males. It appears under such various shapes, and with so many symptoms, that it will be almost impossible to give a special definition of it; it must be described by taking all its symptoms collectively, or rather the most prominent among them. It attacks pregnant as well as non-pregnant females, and however alarming a paroxysm may appear, it is seldom attended with danger, unless it merges into epilepsy. Retention of urine is to be feared in a long-continued paroxysm of hysteria.

Causes. Hysteria is a disease connected with some derangement or morbid condition of the reproductive organs, and may be excited into action by various causes, as want of sleep, excessive fatigue, disordered digestion, sudden mental shocks, as joy, fear, grief, &c.; excitement of the reproductive organs, or of the venereal sense, indolence, high living, sedentary habits, &c. Females of an irritable, nervous system, are most subject to it, and those who are single or widows more so than the married; and the paroxysms occur oftener about the period of menstruation than at any other time. Excessive discharges and exhausting diseases, frequently give rise to attacks of hysteria, which occur during convalescence, and are renewed subsequently upon the slightest causes.

Symptoms. In connection with hysteria there may be various conditions of the system; thus, the patient may appear in all other respects to be quite healthy, or she may be slightly nervous, or affected with dyspeptic symptoms, more or less flatulency, mental depression or irritability, and palpitation of the heart. She may be subject to ringing in the ears, confusion of mind, spells of anxiety and alarm, sinking sensations, numbness of the limbs, a feeling as if insects were creeping on the top of the head, a severe, circumscribed pain in the head,

(clavus hystericus) a troublesome, limited pain below the left breast, or in the left iliac region, attacks of difficult breathing, mental illusions, and various other singular and unaccountable symptoms.

The hysteric attack may be preceded by dejection of spirits, yawning, effusion of tears, difficult breathing, feeling of anxiety, nausea, numbness of the extremities, palpitation of the heart, &c.; but most commonly it comes on suddenly; usually, from a calm or excited condition, but in which no symptoms of disease are manifested, the female, from an unlucky word, or upon the receipt of unpleasant news, and often from no apparent immediate reason, commences crying and laughing at intervals, perhaps also venting reproaches; the laughing and crying are more or less violent and immoderate, and are of a convulsive nature. This may be followed by stupid silence, or sobs. Frequently there will be tearing out of the hair, or perhaps she will merely wring her hands. These, together with convulsions of a clonic character, tonic spasms, pleasant smiles, &c., may continue for some time, being variously repeated, and wildly and irregularly combined, until they cease, leaving the patient in a calm but more or less exhausted condition. At the commencement of the attack, as well as during its continuance, the female experiences a sense of tightness about the throat, or a sensation as if a ball had passed upward to the throat and lodged there, called "globus hystericus," and which occasions her to sob, make repeated attempts at swallowing, press her chest with her hands, or carry them to the throat, as if she would remove the obstruction.

She may lie perfectly still and motionless for a longer or shorter time, or she may be extremely agitated, and roll from side to side. The face is pale, though not always, and is not distorted. Frequently, these symptoms subside without terminating in convulsions. When convulsions occur, the large muscles of the back are violently contracted, the body is rigidly bent backward forming an arch, with the breast projecting forward and the head drawn backward. This may continue for some time, or it may be accompanied with sudden spasmodic jerkings and contortions of the body, in rapid succession forward and backward, or in other directions. The whole

muscular system is thrown into violent spasms, and the bystanders will hardly be able to restrain the contortions, or prevent the patient from throwing herself out of the bed. With these convulsions the jaws will be firmly closed, the face swollen, the eyes rolling, prominent and red, the teeth gnashed, the fists clenched, and the arms either rigid or spasmodically thrown about. No froth issues from the mouth, and in nearly all cases the patient is conscious of what is going on around her. These attacks may occur irregularly and at distant intervals, or they may occur every day, commencing at the same hour with great regularity. Sometimes there will be obstinate constipation and retention of urine, at others the urine will be copious and pale. More or less flatulency, with borborygmi, is apt to be present. After a longer or shorter time the attack subsides, and the patient passes into a sleep, from which she awakes feeling somewhat enfeebled; if the attacks are frequent the debility will increase, the mind will suffer, and soreness will be experienced in various muscles.

It is not uncommon for hysterical patients to complain of dreadful and excruciating pain in the hips, knee, spine, &c., with excessive tenderness to the touch, and which are owing to severe muscular contraction, instead of any disease of the parts. I know of one female who was nearly destroyed by treatment for uterine inflammation, when the whole difficulty was hysterical contraction of the muscles of the thigh and abdomen, causing considerable soreness in the parts. Sometimes a species of paralysis accompanies hysteria; and, occasionally, females will imagine many strange things, and even practice more or less deception, speaking in a whisper, pretending to vomit blood, meat, &c., &c.

In some women, and especially during pregnancy, with a very slight warning, they may be attacked with a severe fit of hysterical convulsions, which may occur daily, every other day, or at longer intervals, and which, if not removed, will induce a miscarriage, which usually occurs at the time of the fit.

Discrimination. Hysterical convulsions may be determined from epileptic by observing that in the former there is no frothing at the mouth, no protrusion of the tongue or biting it, and after the paroxysm is over, the patient recovers her usual state,

and does not fall into a sleep as in epilepsy; from apoplexy, by observing that in this the patient loses consciousness and voluntary motion first, and finally all motion ceases, and the breathing is stertorous; from puerperal convulsions, by observing that in these the actions of the muscles are violent and irregular, the head is strongly rotated to the right or left, and backward with violent jerking contractions of the muscles of the back, abdomen, and upper and lower extremities; spasmodic action of the muscles of the face is rapidly repeated; the lips and teeth are firmly closed; the breathing is loud and hissing; the tongue is very livid, protruded forward, and often bitten, so that the blood and saliva is thrown some distance through the compressed lips; the face becomes livid; and the attack usually occurs in first labors among females with short, thick necks.

Treatment. The treatment will be, 1st, to overcome the paroxysm; 2d, to adopt means during the interval which will strengthen the nervous system and lessen its excitability, and thus prevent a return of the attack.

During the paroxysm in mild cases, a teaspoonful of the Compound Spirits of Lavender may be added to a little sweetened water, and administered, and this may be repeated every five, ten, or fifteen minutes, as the case may require. The dress, and all tight strings must be loosened, and the female placed where there is a free admission of air. In severe cases, the Compound Tincture of Lobelia and Capsicum may be given, in doses of from a teaspoonful to a tablespoonful, repeated every ten or twenty minutes. Or, the following heterogeneous mixture will be found especially useful, notwithstanding its singular construction:—Take of Skunk Cabbage root, Scullcap, Ladies' Slipper root, Lobelia, each, half an ounce, Capsicum two drachms, Alcohol one pint, Compound Spirits of Lavender half a pint, Ether, Ammonia, each, four fluidounces: mix together, and let it stand fourteen days, frequently agitating; keep it in a well stopped bottle. The dose is from one to three teaspoonfuls, repeated as required.

Patients in apparently the most distressing hysterical spasms, are yet very sensible of what is passing around them, and this may frequently be taken advantage of to lessen a fit, by arous-

ing their fears in some way. One practitioner says, that among married females he has frequently terminated the paroxysm by pushing up the uterus into the upper part of the pelvic cavity, as far as possible, and holding it balanced upon the end of the index finger. The only cause of the benefit in such cases is, the mental or moral impression produced upon the patient.

As a general rule it is better not to interfere with the movements of a hysterical patient, further than to prevent her from injuring herself; and any attempts to subdue a paroxysm by bleeding, or violent or forcible measures, are extremely improper. If the bowels are costive, and the paroxysm is of long continuance, a purgative injection may be given, as, a mixture of warm Water, Molasses, each, half a pint, Salt two drachms, Compound Tincture of Lobelia and Capsicum a fluid ounce; mix. This may be repeated as the urgency of the case may require. Sometimes, cold water dashed over the face and extremities, will be attended with a good effect.

The treatment in the intervals between the fits, will be to keep the stomach and bowels in a healthy condition, obtaining one alvine evacuation daily, to keep up the functions of the skin by bathing and friction, and to improve the condition of the nervous and uterine systems by one of the following agents:—

1. Take of Aletridin twelve grains, Senecin twelve grains, Sulphate of Quinia six grains; mix together, and divide into twelve pills. The dose is one pill, repeated three or four times a day.

2. Take of Extract of Belladonna one grain and a half, Sulphate of Quinia six grains, Alcoholic Extract of Black Cohosh eighteen grains: mix together, and divide into twelve pills. The dose as above.

3. Take of Aletridin twelve grains, Senecin twelve grains, Alcoholic Extract of Nux Vomica one grain; mix together, and divide into twelve pills. The dose is one pill three times a day.

4. Take of Aletridin twelve grains, Dioscorein twelve grains, Capsicum twelve grains; mix together, and divide into twelve pills. The dose as above.

5. The Compound Syrup of Partridge-berry.

Whichever of these agents is used, it must be persevered in, and if the patient is of a strumous habit, an alterative with Iodide of Potassium must be administered; or, if she be anemic, some preparation of Iron. When any tenderness is discovered along the spinal column, counter-irritation should be applied every day or two, as the Compound Liniment of Oil of Amber, Dry Cupping or Firing. Among the agents recommended in this disease are powdered Valerian, fifteen grains for a dose; Castor; Musk; Assafetida, &c.; but these seldom effect cures.

The diet should be nutritious and of easy digestion, avoiding acids, grease, flatulent food, and pastry. The mind of the patient should be kept constantly easy and cheerful, and occupied if possible in some pleasant pursuit; exercise must be taken daily, all high living avoided; and, where it produces no bad influence, an occasional douche to the head and spine, or, a cold shower-bath, will be found decidedly beneficial. Idleness is a great cause of renewed paroysms.

When hysterical convulsions occur during pregnancy, the Compound Tincture of Lobelia and Capsicum should be administered in doses of from a teaspoonful to a tablespoonful, repeating them every ten or twenty minutes, until the paroxysm subsides. If the first dose be large enough, it will commonly afford relief without any more being required; sometimes, however, a second, or third dose may be necessary. During the intervals between the hysterical attacks, the diet of the patient must be regulated, giving her a hearty, nourishing, but easily digested food, with some pleasant stimulant, if she be weak, as Ale, Porter, or Wine, &c., in moderate quantity; the bowels must be kept regular, obtaining a daily evacuation from them; and this course should be pursued until delivery takes place. All influences tending to depress or excite the mind must be avoided, the patient should be kept in a calm and tranquil state; powerful medicines as cathartics, sudorifics, &c., are inadmissible; and cohabitation during the remainder of the pregnancy must be positively abstained from. At the time of labor a vial of the above tincture should be at hand, to promptly subdue any paroxysms which may take place at that time, by its immediate administration.

STOMATITIS MATERNA, OR NURSING SORE MOUTH.

Women who give suck, or who have advanced to the latter months of pregnancy, are sometimes affected with a sore mouth peculiar to themselves, other females and men being exempt from it. It is commonly termed the *sore mouth of nursing women*. The most robust constitution, or the sickly and delicate, are indiscriminately attacked by it; those, however, of costive habits, dyspeptic symptoms, and hepatic affections, seem, to be more liable to its attack than others. It also attacks those disposed to consumption, erysipelas, or whose systems have been impaired by the employment of mercurials. The children are generally healthy and robust, except in the last stages when the secretion of milk diminishes.

Symptoms. The disease generally comes on suddenly, the first symptom being a severe scalding sensation of the tongue, with pain, at times intense. The tongue and roof of the mouth are of a pink color, especially in the severe instances; and there is a profuse watery discharge from the mouth, extremely hot, so much so as to give a scalding sensation to the face when passing over it. Any food or drink taken into the mouth occasions more or less intense pain. After a few days, slight ulcerations on the tongue, as well as about the throat, manifest themselves, and this with the scalding, flow of saliva, pain, &c., will continue until the child is weaned, or the patient has been cured. The bowels are generally costive. When the disease extends into the bowels, diarrhea ensues, and the case is much more dangerous. It is a singular disease, nearly always disappearing upon weaning the child; yet weaning is not always necessary, nor is it at all desirable, as there is always a greater disposition to a return of the disease at every future delivery than in those cases where proper treatment has effected a cure and restored the constitution to its usual healthy condition. The disease has terminated in death in three, four, or six weeks after the birth of the child; sometimes it will not prove fatal until after it has occurred several times.

Treatment. In severe cases, if the strength or condition of the patient will admit, an emetic must be administered and repeated twice every week, continuing it as long as the symp-

toms of the case, and the obstinately torpid state of the liver require; I prefer the Compound Powder of Lobelia. After the effects of the emetic have subsided, a cathartic must be given, as the Compound Powder of Jalap, Compound Powder of Leptandrin, or Compound Pills of Leptandrin, a sufficient dose of which must be repeated every day or two. When diarrhea is present, omit the physic. Internally, the Tincture of Muriate of Iron, may be given in doses of ten or twenty drops in about a gill of an infusion of Queen of the Meadow root, or other diuretic, repeating it every two or three hours. And should there be any derangement of the kidneys, with scanty, high-colored, and scalding urine, diuretics will be beneficial, as an infusion of Haircap moss, Cleavers, Marshmallow, &c. Sometimes Canada Balsam will be found advantageous.

The soreness of the mouth and throat may be relieved by applying to them once a day, a wash composed of Nitrate of Silver from forty to eighty grains, dissolved in a fluidounce of Distilled Water. The best period for its application will be just previous to retiring to bed, in order that the patient may procure sleep.

Through the day, the mouth as well as the throat should be washed or gargled, several times, with one of the following astringent mixtures, a teaspoonful or so of which may be occasionally swallowed with advantage:—Take of Geranium, Blue Cohosh, Golden Seal, Solomon's Seal, each, half an ounce; mix, and make one pint of a very strong infusion, to which, when strained, add powdered Borax two drachms, Honey a gill. Or, take of Geranium, Marshmallow, Rosemary, Golden Seal, and Wild Indigo root, each, one ounce. Prepare the same as the previous infusion.

The body should be bathed daily with an alkaline solution, rendered stimulating by the addition of Alcohol or Whisky; and as soon after the delivery as may be prudent, the Hot Air bath should be administered once or twice a week, if the condition of the patient will admit. The diet should be nutritious and readily digestible; and must not be of a greasy nature, coarse, liable to occasion flatulency, or sour stomach, or in any way obstruct or impair the functions of the stomach or liver. Liquors are not to be used, unless in

cases of much debility, when wine may be allowed. It is always advisable to cure this affection, if possible, without weaning the child, as the female is thereby rendered less liable to its recurrence at another parturient period; but, if the symptoms continue to increase, and the strength of the patient to fail, with violent diarrhea, weaning may become absolutely necessary in order to save the patient's life.

I have recently used Chlorate of Potassa in this distressing malady, and find it to be superior to any other single agent. It may be given in doses of from ten to twenty grains, dissolved in half a fluidounce or a fluidounce of water, to which an equal quantity of syrup or sweetened water must be added; the dose must be repeated three times a day, about an hour after each meal. If it operates on the bowels, lessen the dose.

PART IV.

DISEASES OF THE BREAST.

DESCRIPTION OF THE BREAST.

The Breasts, also called the "mammæ," and "mammary glands," are organs met with in both the male and female, their structure being similar in both sexes, but more perfectly developed among women. Their form is circular, and from the commencement to the cessation of menstruation they are larger than at any other period of life, with the exception of the latter months of pregnancy and during lactation. Previous to the menstrual epoch, and during old age, the tissue of the mammæ is of a fibrous nature, and white color, presenting indistinct marks of those tubes which more especially characterize these organs.

The female breast is designed to supply milk to the infant, and the changes necessary to the accomplishment of this purpose commence with conception, progress with pregnancy, and are usually perfected at the period of parturition; from this time, the secretion of milk may continue for an indefinite season, or until the weaning of the infant. Generally, the milk continues wholesome until the tenth or twelfth month following delivery, after which it deteriorates in quality, becomes injurious to the child, and debilitating to the mother. Instances have been related where men have suckled infants.

The breast consists essentially of from fifteen to twenty small flattened masses or lobes, from six to twelve lines in

width, each of which is composed of numerous smaller lobules, terminating in rounded or pear-shaped vascular granules or gland-vesicles, about the size of poppy seed. These various parts are covered with a firm, white, connective tissue, with considerable adipose matter diffused between them. The gland-vesicles or granules secrete the milk from their internal walls or surfaces, which is conveyed by means of minute tubes or ducts to the nipple, at which part the milk-ducts or canals, also called the "lactiferous ducts," or the "galactophorous ducts," terminate. These ducts are large at the nipple, just before reaching its extremity, being from two to four lines in diameter, pass convolutely inward through the larger and smaller glandular lobes above mentioned, at the same time diminishing in size and subdividing into numerous tubes, so that each gland-vesicle is furnished with a canal through which the milk it secretes may be conveyed to the larger tubes and thence to the nipple; these tubes are arranged in a radiated manner, starting from the nipple as a center, and ramifying as they extend inward. When the tissue between the glandular elements of the breast, is inconsiderable or deficient, the breast does not present a plump, firm, globular appearance, and on passing the fingers over it the lobes may be felt, imparting a sensation of roughness or irregularity, instead of an equal smoothness and firmness.

The *nipple*, also called "mamilla," is a conical protuberance situated centrally on the exterior of the breast; it is composed of the larger lactiferous ducts, which terminate upon its extremity, forming fifteen or twenty independent sinuses, which vary in diameter from one-fourth to one-sixth of a line, —together with firm, elastic tissue, blood-vessels, small nerve-fibers, sebaceous glands, a delicate, vascular, and very sensitive covering or epithelium, &c. It becomes tumid or erect when excited. When the nipple is properly elongated the milk flows freely through the milk-tubes, but its contraction interferes with the discharge of this fluid.

The base of the nipple is surrounded by a red circle termed the *areola*, which, among those who have borne children, becomes of a reddish-brown, or even dark-brown color. It is well supplied with sweat-glands and sebaceous follicles, the

latter forming small elevations or papillæ on its surface. The augmented size of the sebaceous glands of the areola, are considered by some physiologists as undoubted evidence of pregnancy; while others look upon its change to a dark-brown color as an indication of this state.

In order to perform the important function of secreting milk, the breasts are furnished with an abundance of blood, and nervous power. The arteries, branching from the axillary intercostal, thoracic, and internal mammary arteries, with their accompanying veins; the nerves, being derived from the intercostals and the brachial plexus. They are also furnished with numerous lymphatic vessels, which pass into the axillary lymphatic glands.

In childhood and old age the breasts are flattened or very imperfectly developed; at the age of puberty and during the menstrual life they become prominent, globular, firm, and somewhat sensitive. In the latter months of pregnancy they increase in size, gradually lose their uniform, firm, whitish character, and become softer, more granular and lobate; their glandular texture assumes a yellowish-red appearance, with a well defined whitish tissue between, of a somewhat spongy character. The vascular granules and milk-tubes enlarge and multiply, and contain milk; the areola enlarges, and in most cases the nipple also.

These organs are subject to several abnormal conditions, to which a brief reference will be proper.

The breasts of newly-born infants, whether male or female, are apt to become *swollen* and *indurated*, containing a whitish serum, which is popularly supposed to be milk. Slightly stimulating applications will remove this condition, as a mixture of two or three parts of Olive Oil, and one part of Tincture of Camphor; this may be applied over the parts two or three times daily. If there be much pain or irritation, fomentations of St. John's wort flowers, or of Mullein leaves, will be found efficacious; and great heat or inflammation of the breasts may be subdued by the employment of poultices composed of equal parts of Lobelia leaves, in powder, and Slippery Elm bark. Inflammation, abscesses, and even sloughing may occur spontaneously, or may be the result of improper

management of the infant's swollen breasts. The first two must be treated in the same manner as named heretofore for inflammation or abscess of other parts; should sloughing occur, apply stimulants to the part, and dress with the Red Oxide of Lead Plaster, renewing the applications two or three times a day; and should much debility be present, the internal administration of tonics and mild stimulants will be required.

Occasionally, one or both of the mammary glands may be in a state of *atrophy*, or imperfectly developed; or, this condition may affect the nipple only. In rare cases one of the breasts have been found wanting. Again, there may be an excess of development of the mammæ, or this may be confined to the nipple. This *hypertrophied* condition of the breasts may vary in degree and form; it may affect one or both of them; it may be seen in the development of a third or fourth breast; or, the nipples may alone be excessively enlarged, or, each mammary gland may be furnished with more than one nipple. These several abnormalities are apt to be met with among those females in whom there is some faulty condition of the reproductive organs, though they may exist independent of this. But little benefit can be effected by treatment, except to treat any painful or serious symptoms to which they may at any time give rise, upon general principles.

The female breast is very apt to sympathize with disease of other parts, more especially those of the generative organs; as well as with certain normal functions of these organs. Thus, it is by no means uncommon for the breasts to become *irritated* and *painful*, or to enlarge temporarily at the periods of menstruation, and during pregnancy; and which may generally be relieved by warm fomentations, and frictions with some anodyne liniment. Occasionally, however, acute inflammation of the breasts will occur, requiring the same treatment as named for that disease. When these states of the breast occur from the irritations produced by amenorrhea, dysmenorrhea, &c., they will cease with the disease occasioning them; but if, in the meantime, they should prove annoying or painful, palliative measures may be pursued, as anodyne fomentations to the breasts, anodyne liniments, &c. Equal parts of Elm bark and Lobelia, will be found an excellent cataplasm, to relieve pain

and inflammation. An *irritable* condition of the breasts occurring primarily, may be treated in the same manner as referred to above.

There is a painful affection of the breast, to which the terms "*mastodynia*," and "*neuralgia of the breast*," are applied. The pain is very severe, sometimes so acute as to be insupportable, of a lancinating character, deeply situated, and irregularly intermittent. It passes from the breast to the shoulder-blade and back, and is produced or augmented upon the least pressure. The breast is free from inflammation, rather more voluminous than the unaffected one, softer to the touch, except when pressure is made, when small indurations of the gland are felt, which are more painful than other parts. In other cases there is no induration of the gland, nor any inflammation, the only symptom being the severe pain. Neuralgia of the breast may exist as a primary disease, or it may be connected with some uterine malady. It may be owing to blows or injuries to the breast; or it may arise sympathetically from the presence of pregnancy, amenorrhea, dysmenorrhea, &c.

When it exists as a primary disease, the Compound Plaster of Belladonna should be applied over the whole breast; and internally the following Tincture may be given in doses of twenty drops, in about a tablespoonful of water, repeating it every hour or two, and continuing its daily use until the disease is cured: Take of Sulphate of Quinia twenty grains, Elixir Vitriol one fluidrachm, dissolve the Quinia, and add Tincture of Black Cohosh fourteen fluidrachms. The bowels should be kept regular by gentle laxatives, as the Powder of Rhubarb and Potassa; and the diet should be nutritious and easy of digestion, avoiding fats and acids.

When the neuralgia is severe and obstinate, a Compound Tar Plaster must be placed over the spinal column, between the shoulder blades, or where pressure upon the spinal nerves produces pain or soreness, and be kept discharging as long as the patient can bear,—reapplying it after a short interval, should the cure not be permanent.

When the neuralgia depends upon uterine disorder, this must first be removed, before a permanent cure can be expected,—

though the Compound Plaster of Belladonna, as well as other means may be used to afford relief.

Two or three subcutaneous incisions with an ordinary tenotome, dividing the entire mammary gland, has been occasionally found efficacious in obstinate cases. The Valerianate of Ammonia, which has been found so efficacious in the treatment of neuralgia of other parts, may perhaps prove a useful internal agent in this affection; it is a brown liquid, of which the dose is one, two, or three fluidrachms, two or three times a day.

Adventitious growths, either non-malignant or malignant, are common to the female mammæ. Of the first or non-malignant, there are three or four varieties, and it is important not to confound them with those of a malignant character, as has frequently been done. A tumor may exist in the female breast, giving a roughness and inequality to its external surface, and even be attended with severe pains, without necessarily being malignant; and it is from such cases, that the "cancer-curers" of the present day have derived their celebrity —having effected cures of cancer, *where no cancer existed.* Females who observe a hardness or enlargement of the breast, have, generally, such a dread of cancer, of the symptoms and characters of which disease they are ignorant, that their credulity is readily imposed upon by the crafty and unprincipled "cancer-doctor," who can easily relieve them of large sums of money, by pronouncing their tumors to be "cancerous." I have been aware of several instances of this kind; one in particular, in which a simple abscess of the breast was diagnosed cancer, and the gland excised.

A profuse secretion of milk may so distend either a part or the whole of the milk ducts, as to give rise to a tumor; an instance of which may be witnessed in ordinary mammary abscess. But the most annoying form of tumor is that due to new growths in the fibro-cellular or adipose tissue of the gland. These vary in their character. They are encysted, rounded, movable, may be single, but are more commonly numerous, are of various sizes, from that of a mullein seed to that of a walnut, or even larger, and like cancer, they may cause the nipple to retract. Their internal surfaces may be smooth, or

they may present warty, tuberculated, or raspberry-like excrescences, and as they continue to grow, the proper tissue of the breast becomes atrophied and hardened. They consist of an external sheath which forms the cyst, within which is contained a transparent or opaque fluid of a serous, albuminous, or colloid character; or, a solid substance consisting of adipose matter, or fibroid deposits. The latter have been termed "encysted sarcoma," "cysto-sarcoma," &c.; they frequently attain a very large size, and have been successfully removed by extirpation. Hydatids are sometimes found in the cysts containing fluid. Tubercle is seldom met with in the mammary gland. Many of these non-malignant tumors of the breast may be arrested in their growth, or be entirely removed, by the application of the Compound Plaster of Belladonna; and this plaster will be found of great utility in removing the pain accompanying them. It is of especial service in patients of strumous habits. While pursuing local treatment, constitutional measures must be adopted to meet any strumous, syphilitic, or other taint of the system, as well as to overcome debility, nervous irritability, constipation, &c. Unless the pain be excessive, the tumor uncomfortably large, or the life of the patient threatened, an operation will rarely be required. When this is needed, the whole tumor may be extirpated; or, it may be punctured and its contents be allowed to flow off. In the latter case, if the cyst be not removed by injections of a stimulating or caustic nature, a return of the tumor may be expected. These tumors frequently exist, without exerting any appreciable influence either upon the health or longevity of the patient.

The *nipple* may be *absent*, *malformed*, *undeveloped*, or *imperforate*, either of which conditions may exist without giving rise to unpleasant symptoms, as long as pregnancy is avoided. The imperforation may be congenital, or accidental. When milk is present in the breasts, and either of the above abnormalities exist, I know of no remedy; the only method to pursue will be to make use of means to arrest further secretion of milk, and employ local measures to relieve any pain resulting from excessive enlargement of the breasts occasioned by distension of the milk-tubes.

Frequently, the nipples will be *depressed* or *drawn inwards*, so that the child, during lactation, is prevented from drawing any milk, not being able to receive the nipple into its mouth. This may be overcome to a great extent either by covering the nipple with a false teat or covering, through which the child may suck; or, should this fail, the ordinary glass breast-tubes or milk-cups may be used, feeding the infant from the bottle; and this course may be pursued until the nipple becomes sufficiently elongated for the child to take in its mouth. In some cases, an exhausting glass vessel with a small air-pump attached, to be used the same as cupping glasses, will be found efficient.

The nipples are subject to painful *excoriation*, *fissures*, &c., known as "*sore*, *chapped*, or *ulcerated nipples*." It is more common during a first lactation, and some females are subject to it every time they give suck. Frequently when the child sucks, the pain is severe, and more or less blood flows from the part. Sometimes painful ulcers or deep fissures are present, and in a few instances the female loses one or both nipples. The artificial teats sold in the drug stores, will remove or prevent this difficulty, when the child will draw through them; but it will often decline their use, when other means must be employed. The first thing is to reduce any inflammation which may be present; and which may be accomplished by a poultice of Elm bark, or Elm and Hops,—Elm and powdered Lobelia, &c., which should be made large enough to extend over the nipples, and for some distance around them. Occasionally, the severity of the inflammation will render two or three leeches necessary before the poultice will be of any advantage; the leeches may be placed on that part of the breast just beyond the areola or colored circle which surrounds the base of the nipple. Sometimes the pain and inflammation may be subdued by washing the nipple three or four times a day with a solution of four or five grains of Nitrate of Silver in a fluidounce of distilled water.

After the severe inflammation of the part has subsided, one of the following compounds will perfect the cure:—Take of Mutton Tallow half an ounce, Balsam of Peru one drachm, Glycerin, Honey, each, half a drachm; melt the Tallow, strain it

and then mix in the other ingredients. A little of this may be applied to the nipple four or five times a day. 2. Take of Balsams of Tolu, and Peru, and Honey, each, three and a half drachms; Opium, Camphor, each, half a drachm; Alcohol half a pint; mix, and let them stand a week, shaking them well every day. Moisten a piece of soft linen with this, and keep it upon the nipple during the intervals of nursing, occasionally renewing it. Wash the nipple always with a little warm water before allowing the child to suck. It should smart a little, but if this be too severe, the tincture must be diluted with a small amount of water. 3. Recently, I have found a mixture of equal parts of Sweet-gum and Tallow, to be a superior application in this affection.

In cases where, previous to parturition, the skin covering the nipple is found tender and delicate, it should be washed several times a day with a solution of Alum, or of Tannic Acid, or a decoction of Oak bark, Rhatany, or other astringent. By this means the skin is tanned or hardened, and after delivery, is capable of resisting the irritation caused by suckling, and the patient is preserved from excoriated and fissured nipples.

MAMMITIS, OR INFLAMMATION OF THE BREAST. MAMMARY ABSCESS.

Inflammation of the Breast, or Ague in the Breast, as it is sometimes popularly called, is an affection frequently met with among nursing women, and which may take place at any period during suckling. It is generally caused by cold, though it may be occasioned by permitting the breasts to become distended with milk, as in sore nipples, or among those mothers who remain long at parties, balls, theaters, &c., leaving their infants at home. It may also follow improper pressure on the breasts, mechanical injuries, &c.

Symptoms. The first indication is generally a chill, succeeded by more or less feverish symptoms; slight darting pains are felt in the breast, which are more painful when this organ is compressed, and which increase in severity as the disease progresses; in severe cases the pain frequently extends to the

arm-pit. At the same time the breast swells, becoming hard, unequal and glossy, but retaining its color. Finally, the skin becomes dark-red, matter forms, the enlarged breast becomes considerably softer, with throbbing, and a sense of fluctuation. The severe pain renders the patient very fretful and irritable, especially when it is accompanied with a constant wakefulness, night-sweats, irregular chills, impaired appetite, debility, and emaciation. It is sometimes a very obstinate malady to cure.

Treatment. This must have in view to prevent the formation of matter if possible; but if the first three or four days have been allowed to pass without treatment, it will be a difficult thing to prevent suppuration. When matter commences to form we must use means to hasten its progress; in from nine to twelve days it is generally completed. For the first three or four days the breast should be bathed three times a day, with a stimulating liniment, as for instance, a combination of one ounce each of Camphor, Oil of Sassafras, Oil of Cajeput, and Olive Oil. Immediately after this bathing apply the following ointment:—Take of finely cut or shaved Castile Soap an ounce and a half, Lard one ounce, yellow Beeswax half an ounce; melt these ingredients together by a gentle heat, then take from the fire, and when nearly cool, add slowly eight fluidrachms of Jamaica Spirits in which thirty grains of Camphor have been dissolved. To apply it:—Cut a piece of linen in a circular form, of the size of the whole breast, leaving a hole in the center sufficiently large for the nipple to pass through. Then partially remelting this ointment, spread it on the linen. Apply it to the breast as warm as can be borne; in about every four or six hours, remove it from the breast, heat it again to make it soft, and reapply as before, having, every time, first bathed with the above liniment. The female should remain in bed, as still as possible, and the milk must be drawn from the breast frequently, by any one who can accomplish it. The ointment thus used will frequently check any further progress of the disease in the course of twenty-four hours. Any nervous excitability may be lessened by the administration of six or eight grains of the Compound Powder of Ipecacuanha and Opium, repeated every three or four hours. The bowels should be kept regular daily; and the infant should be fed by

a spoon, or a wet nurse be engaged for a time. Should this fail, and matter form, the suppuration may be hastened by an Elm poultice, or a bread and milk poultice, placed over the breast, and renewed frequently. Or, if it can be obtained, fresh Pokeroot may be roasted in hot ashes, until it is soft, then mashed, mixed with about an equal quantity of powdered Lobelia, and sufficient hot water added, which may be applied over the breast, renewing it three times a day.

"If the abscess is placed superficially, or on the anterior surface of the breast, and progresses with rapidity, not causing an undue degree of suffering, it will be better not to interfere with it, but to allow it to take its natural course.

"If it be more deeply located, advancing very gradually, with great pain in the parts, fever, constitutional excitement, wakefulness, &c., it will be proper to open the abscess with a probe or lancet, as soon as the suppuration is completed, thus giving a free egress to the matter, and materially diminishing the sufferings of the patient. And in opening the abscess, carry the incision parallel with the lactiferous vessels, so as to avoid dividing them as much as possible.

"If there be a thick covering over the abscess, it will be improper to penetrate it with the lancet, because the opening will not succeed in establishing a free discharge of matter, for as the aperture closes by adhesion, the accumulation of matter proceeds, and ulceration will still continue. On this account, the opening should be made where the matter is most superficial, and where the fluctuation is distinctly perceptible, and its size should be proportioned to its depth.

"When the abscesses are very deep, with several sinuses, the best mode of treatment is to inject into them a solution of two or three drops of strong Sulphuric Acid in a fluidounce of Rose-water; and this may likewise be applied on folds of linen cloth over the bosom, by which the secretion of milk is checked, and adhesion is produced." (*Sir A. Cooper.*)

Should the remaining ulcer become indolent, some finely powdered Bloodroot, or mild Vegetable Caustic, may be sprinkled upon it, over which place lint upon which some Red Oxide of Lead Plaster has been spread—pursuing the same principles of treatment as in indolent ulcers of other

parts. The diet must be generous; and debility, or great prostration of the system must be overcome with stimulating tonics, as Red Peruvian Bark and Port Wine, or, the Compound Wine of Comfrey. In cases of great irritability and weakness, one or two grains of Sulphate of Quinia may be combined with a quarter of a grain, or half a grain, of Sulphate of Morphia, for a dose; repeating it two or three times a day, as may be required.

Iodine administered internally, and applied locally, in solution or ointment, on lint; or an injection of some of a solution composed of five grains of Iodine and ten grains of Iodide of Potassium in one fluidounce of water, in conjunction with the internal use of Iodine, has been found efficacious in removing chronic mammary abscess of several years' standing.

CANCER OF THE BREAST.

As a general rule, glandular tumors of the breast are *not* malignant or cancerous; and there is no proof that tumors at one time non-malignant, or non-cancerous, may after a time become cancerous. I know an opposite opinion has obtained among the people and in the profession, and that it is studiously fostered and reiterated by those who are trying to make money, as "*Cancer Curers*," from a reputation based on this and other erroneous ideas.

That such a thing as a change of character in a glandular tumor *may* occur, is possible, and that a breast with a tumor in it is more liable than a healthy breast to suffer from a malignant disease is probable, but there have been no facts observed to support this idea. On the contrary, in several specimens preserved in the Museum of St. Bartholomew, where the breast has both a tumor and a hard cancer, the cancer did not select the tumor as its seat, but another and apparently a sound part of the gland.

Age.—At a recent meeting of the Buffalo Medical Association, when the age at which the breast is liable to scirrhus was under discussion, Dr. Hamilton said he had never seen true scirrhus in the breast of a person so young as twenty-seven years. This experience led him to think that hard can-

cer of the breast was a disease of age—always indicating the degeneration of tissue. That one organ of the system might be old in a certain sense, while other organs were younger, as the hair fell off earlier in one case than another.

Even epithelial cancer usually occurs after forty years of age. The breast of the female usually has cancer at the very period when its functions cease, as well as those of the uterus. These organs are then *old*, comparatively speaking. He did not deny that hereditary predisposition was sometimes manifest, but that predisposition was the same as that which leads the hair to turn gray, or the head to become bald.

A table has been drawn up of the age at which the disease in each case was *first observed* by the patients, and of the 158 cases noted:

2	were	first	observed	between	20	and	25	years	of	age.
4	"	"	"	"	25	"	30	"	"	"
9	"	"	"	"	30	"	35	"	"	"
26	"	"	"	"	35	"	40	"	"	"
33	"	"	"	"	40	"	45	"	"	"
40	"	"	"	"	45	"	50	"	"	"
17	"	"	"	"	50	"	55	"	"	"
11	"	"	"	"	55	"	60	"	"	"
9	"	"	"	"	60	"	70	"	"	"
6	"	"	"	"	70	"	80	"	"	"
1	"	"	"	above	80	"		"	"	"

In estimating the frequency of scirrhus at different ages from this table the comparatively less number of women who are alive at the different ages should be borne in mind. And as more are alive at 20 than at 40, just in that proportion are there more who suffer from scirrhus at the latter age than at the former, *beyond the number indicated by the table*, and hence at least forty to one.

Symptoms. The most frequent form of cancer in the breast is the hard, or scirrhous cancer. This disease has received many names, and been described in various words, and as of different varieties; as Scirrhus, Scirrhoma, and others indicative of its hard texture; or Carcinoma reticulare, indicating its peculiarity of structure. But perhaps the best terms to use

are *Scirrhus*, before the surface has ulcerated; and *Carcinoma*, after the surface is broken and ulceration is present.

Scirrhus in the Breast by no means always presents a uniform appearance. It always appears to be seated in some part of the gland, but differs much in form and outline. Usually it appears as a hard mass in some part of the gland, leaving the remainder of that organ healthy, or perhaps slightly withered or it may be surrounded with more than usual adipose matter.

The *hardness* of the tumor is quite extreme, fully equal to cartilage, and like cartilage it is usually quite inelastic. Yet sometimes it has about the firmness of the walls of the heart.

This tumor is seldom larger than the gland was, or than that part of the gland was whose space it occupies. It may be much smaller than the gland originally was. Its *shape* appears to depend mainly on the part of the gland diseased; but it gathers up, as it were, the lobes of the gland into an irregular lump, and blunts their outlines. Various names have been applied to the shapes assumed; and hence cancers have been said to be "ramose," "tuberose," "infiltrated," etc., but as the shape appears to be accidental, it seems unwise to make *varieties* depending on accident.

From the scirrhous tumor, processes or crooked, gnarled, knotted branches may extend, which correspond to the lobes and processes of the mammary glands. But these processes are comparatively rare—and yet their occurrence has given the name *Cancer* to these diseases. Sometimes these limbs or "claws" appear to be detached from the original mass, and they have escaped removal in operations.

As scirrhus involves the neighboring tissues, it can never be made to roll or slide under the finger like a glandular tumor. It is from this involvement that the skin often dimples over the cancer, and as the disease progresses, that the seaming or wrinkling of the surface of the breast, as well as the retraction of the nipple, and the firm connection between the pectoral muscle and the deeper portion of the scirrhus, take place. As scirrhus has no capsular or investing membrane like that surrounding many other tumors, the adjacent structures adhere firmly to it and render it quite difficult to dissect out, and hence the liability to leave a portion of the disease, when the

breast is removed. There is often a mixture of cancer-substance and glandular substance, but the original tissues waste away so as not to appear deeply within the scirrhous tumor.

Treatment. In the treatment of these malignant scirrhous tumors, a great amount of ignorance and inhumanity have been manifested in the use of caustic applications over them to remove them, thereby changing the scirrhus into an open, inflamed, painful and dangerous ulcer, when the simple operation of exsection, rendered entirely painless, if necessary, by anæsthetics or freezing, would quickly and safely produce all the hoped-for results of the long-continued torture by the application of salves, ointments or caustics.

The health of the general system should be kept in the most active condition, and the different eliminative organs made to perform their functions properly. The various solvents and sedatives may be administered with a view of dissolving and removing from the system such abnormal elements as obtain in it, and of allaying pain or undue nervous excitability.

Among the Dissolvents which have been found of use as internal remedies are, Chloride of Zinc in the sixth of a grain doses, repeated three or four times daily, the Chloride of Potassa and the Hydrochlorate of Ammonia, of each, as much as from five to ten grains may be given at a dose, dissolved in some bland liquid; or the Chromate, or Bichromate, or Prussiate, or the Permanganate of Potassa, each given at first in minute doses, closely watching the effects produced. The system may be made to endure comparatively a large quantity of these and receive no injury. The Chloride of Gold, and the Chloride of Gold and Soda, will at times be found very useful.

These agents may be *tried* with the hope of checking malignant growths, or even removing them entirely; or, of placing the patient in a proper condition before exsection. But usually the knife should be resorted to, and that before the system has been too much injured by disease or treatment to place it beyond the probability of an entire removal of the disease by an operation.

During this treatment, and after an operation, when one is resorted to, as has been remarked, Anodynes may be demanded. As Conium Maculatum is reputed a Dissolvent as

well as an Anodyne, it has been frequently used in this class of cases, and many tumors, supposed to be malignant, have disappeared under its administration. It may be given in substance or in tincture, or fluid extract; but as the pilular extract is very liable to undergo chemical decomposition, it should never be depended on.

Hyosciamus, Stramonium, and Aconite, may also be used, as these and Conium are not liable to the objections which obtain against the various preparations of Opium. Opium, or its preparations, should not be resorted to if their use can be avoided.

A form of malignant disease of the breast sometimes confounded with scirrhus, and which indeed is hard, but not at first located in the glands of the mammæ, is that in which the nipple or skin is first attacked.

These diseases are to be treated in the same way as those just described. Both these forms of disease may attack the breasts of the male, but females are by far the most liable to them, and their greater liability has been estimated as high as 98 to 2.

After an uncertain period of time and growth in scirrhus *ulceration* almost universally follows if the tumor be not removed, and the disease assumes the second form, or that of Carcinoma.

Carcinoma.—To change a scirrhous cancer to a carcinomatous one, there are two modes of ulceration that seem to be natural to the course of the disease. In one form of ulceration, the ulcer commences externally and extends inward; while in the other form, the softening first appears within the scirrhous tumor and progresses outwardly. The external ulceration is observed when the scirrhus has reached to and involved the skin in its growth, as well as the subcutaneous adipose and areolar tissues.

Symptoms. As the malignant disease approaches the surface the skin adheres closely to the portions of the growth that it is over, and becomes dark or turgid with blood, thin, glossy, tense, and perhaps changes to a more dusky color, or a pale reddish-brown. This change in the structure and color of the skin does not extend far, neither does it gradually fade out like discoloration produced by inflammation, but is quite circum-

scribed, with its border but just beyond those parts where the integument adheres to the cancer.

Soon the surface appears raw, or fissured, as if the stretch of the skin had cracked it; or, the skin may be covered at those points with a thin yellow crust or scab, which on being removed exposes an excoriated surface, from which a slight exudation soon induces another similar crust. At this time there is no real *ulcer* present, but after a varying length of time the surface appears as a more positive ulcer, on which crusts no longer form and from which exudes a rather copious, thin, acrid fluid.

When the ulcer is once fairly formed, it is apt to appear quickly at other points where the scirrhus has approached the surface, and by rapid spreading, and coalescing, if there has been more than one, the ulcer rapidly extends, but does not eat deeply into the diseased mass, while its surface appears pale, hard, dry, inactive.

Ulceration does not put a stop to the growth of a cancer, and increased growth leads to the involvement of more skin, which in its turn is softened, and thus the ulcer extends superficially. There is nothing of a specific character in the ulcer so formed, but, as has been stated, on the approach of the tumor the skin becomes thinner, cancerous, excoriated, perhaps fissured, and then softens and disappears.

As the tumor is exposed by the destruction of the integuments, it does not grow rapidly in size or throw out granulations or fungous growths. It is true, granulations may cover the base of the ulcer, but they are pale and hard, and they may scab over, or even be covered with a skin like that covering ordinary cicatrices. If the ulcer becomes deep, it may act very much like an ordinary chronic non-malignant one, and deepen by sloughing or active inflammation.

When, however, the decomposition of the malignant mass begins *within* its substance, the disease assumes a far different appearance and passes through different changes. The yellowish, dull, soft material, is *not* pus, but consists mainly of the debris of the cancer, in which are also cancer cells. It may have mingled with it, also, some ill-formed suppurative fluid. This material accumulates and presses upon

the walls of the tumor until they give way and the mass is discharged, leaving the tumor a solid cancer with a deeply excavated ulcer. The walls of this cavity continue to soften or ulcerate on their internal surface, while their onward growth perseveres by the continued increase of cancerous matter, and often as the cancer wastes away at its ulcerated part, it is increased outwardly, and while the ulcer is enlarged the cancer is not destroyed. The discharge from the ulcer is not pus, but a thin ichorous fluid, which has a peculiar and disagreeable odor, and irritates or corrodes the parts with which it comes in contact. This odor is much more notable in a live cancer than in one which has been removed by amputation.

When not disturbed by treatment, in the latter stages the edge of the ulcer will be raised and everted, and is too rigid or inelastic to stretch, is nodulated and sinuous. The base of the ulcer is hard, knotted, nodulated, and covered with hard, cancerous granulations.

Treatment. For the cure of this as well as the scirrhous form of cancer, almost all forms and kinds of local applications have been made. Extracts of various anodyne and sedative plants, as Stramonium, Hyoscyamus, Belladonna, and Aconite, combined with various vegetable and mineral caustics, have been in vogue from time to time; but as all or nearly all owe their solvent and caustic powers to the minerals in their composition, it has been customary for those who have made the treatment of cancer a speciality to disguise and falsify the agents used, and endeavor to keep their methods of treatment secret and mysterious.

But on investigation, the secret remedy has been found, almost uniformly, to owe its power of dissolving the cancerous structure to the presence of Arsenic, Corrosive Sublimate, Phospate of Iron, or the Chloride of Zinc. These minerals, as has been said, are often combined with extracts of anodyne herbs which seem to render their application less painful than they otherwise would be, and perhaps the extracts may also serve somewhat to remove the cancer.

The extracts of Wood-sorrel and of Red Clover have been said to be useful, but the evidence in their favor is not entirely reliable. A mixture of Tannic Acid and Morphia, with just

enough water to form a thick paste, has sometimes been found of value in ulcerated cancers. So also has an extract of Oak bark, wet with Vinegar. The actual cautery has often been used, and while the pain caused by its application is very great, it is of but short duration, and it may produce less pain in the aggregate than most caustics in more common use. Systematic and continuous pressure, to produce absorption of the abnormal growth, was quite in vogue a few years since.

These various methods have had their advocates, and to promise the cure of a cancer without the dreaded "*application of the knife*," has so pleased the fancy of the people, that many, more especially the self-styled "*cancer curers*," have been induced by their absurd advertisements and publications, to foster the mistaken prejudice under which the public suffers, and physicians have been constrained to make a trial of some of these measures, even at the risk of the loss of valuable time, and perhaps the lives of their patients.

Among the minerals in use, Arsenic and Zinc have been apparently the most successful in exterminating the disease. Arsenic, especially the Iodide, as used by A. T. Thomson, T. C. Crane, and Biett, has acquired some reputation; and in other forms it has been used combined with substances making the *vegetable caustics* often employed by empirics. But Zinc has apparently been employed far more successfully than Arsenic. The Chloride of Zinc, ever since its introduction into medicine by Dr. Papengurth, of St. Petersburgh, has steadily increased in reputation and extended in use. M. Canquoin, of Paris, used it as a caustic and solvent, applied to the surface of cancers, made into a paste with wheat flour and a few drops of water. When he wished to destroy a thick tumor, his paste was made of one part of Chloride of Zinc, half a part of Chloride of Antimony, and two and a half parts of flour, made into a paste with a very small quantity of water. A paste of less power will answer where the tumor is not very hard or very thick. Where the tumor is covered with cuticle or skin, that must first be destroyed by some other application.

Dr. Alexander Ure, of Glasgow, uses anhydrous Sulphate of Lime instead of wheat flour, to form a caustic paste of the

Chloride of Zinc; and he says this possesses the advantage of absorbing the discharge from the morbid mass, and afterward giving a firmer consistency to the eschar. Mr. Cock of Guy's Hospital, also prefers the Sulphate of Lime to wheat flour.

Landolfi, of Naples, a few years since, acquired great notoriety in France, Germany, and other European countries, by the use of an impure Chloride of Zinc combined with the Chlorides of other metals. His formula was:—Take of Chloride of Zinc, Chloride of Gold, Chloride of Antimony, Chloride of Bromine, each, equal parts, and make into a paste with flour and a little water. He also gave internally a pill prepared as follows:—Take of Chloride of Bromine one-tenth of a drop, Ext. Conium half a grain, Phellandrium seed one grain; mix. One pill was given each day the first month, and twice each day for two months.

Although at first very popular, this method, as practiced by Landolfi, was reported against by a Committee of the French Academy, in 1857. The preparation used by Dr. Fell in London, was the Chloride of Zinc made into a paste with Blood-root in place of flour, as used by Canquoin, and probably is none the better for the substitution.

In America it has been used in combination with Blood-root, the root of Hydrastis Canadensis, and many other articles, which have been employed for the purpose of disguising the mineral in use, or perhaps in some instances because of the ignorance of the operator. Blood-root alone, or perhaps with a little Corrosive Sublimate, was used at least fifty years ago.

Without doubt the Chloride of Zinc paste has destroyed morbid and even cancerous growths, and its application is judicious and proper in very many cases, but always without any attempt at secrecy or mystery on the part of the practitioner, as any attempt at deception must prove injurious, in the end, to those who practice it. But while these caustic applications will in time remove malignant growths, most, if not all, physicians have concluded that excision with the knife, in the hands of a skilful surgeon, is not only the quickest and least painful, but by far the safest method of removing a cancer from the breast, as well as from most parts of the body.

Excision. Previous to an operation with the knife, the patient's system should be prepared by such a course of diet, regimen, and medicine, as shall ensure the highest state of healthful activity that it is capable of attaining under the circumstances. Attention should be paid to the digestive organs, that the appetite be good, and the food well digested. The emunctories, as the kidneys, skin, and bowels, should be attended to; and, if possible, the patient's system refreshed by several nights of unbroken rest.

As soon as the system is properly prepared, the cancer should be removed; and while this is being done, the patient may be placed under the anæsthetic influence of Chloroform, or the gland may be frozen by the use of a freezing mixture, or the knife acted upon by a galvanic current, or the operation may be performed without resort to any measures to obtund the pains, as the surgeon and patient may elect.

The operation is to be performed as directed by the surgeons, and the entire gland, if necessary, and so much of the surrounding and subjacent structures are to be removed as are supposed to be involved in the malignant growth. Even some of the glands in the axillæ require removal. After the excision, the wound *must not* be closed, or even partially closed, by drawing together the integuments. However broad the wound may be, the skin should not be drawn together, but the entire surface must be left exposed to observation until it heals by granulation and cicatrization. When thus treated, the parts may be inspected from day to day to discover any appearance of malignancy in the structures not removed by the knife, and should any of a doubtful character be observed they may be taken away by the scissors, the knife, or by the application of the Chloride of Zinc Paste.

After the cancer has been removed, the wound should be dressed with lint or a soft napkin, kept moist with water of sufficiently low temperature to prevent inflammation. The application may be changed often, but always carefully wetted before removal, to cover the surface with moisture and to soften any adhesions or hardenings of the dressing. Even where the solvent paste is applied, that may be covered with pieces of oiled silk or bladder to prevent too great dilution, and out

side, the water may be applied, as if the paste was not in use. This local treatment is to be continued until the parts are perfectly healed.

Previous to the operation, during the process of healing, and for a long time afterward, it is often necessary to administer anodynes in doses very much larger than those required in most diseases.

Sulphate of Quinia should never be neglected. It has been found to relieve pain and check the growth of the disease in a great degree. It may be demanded often. Various preparations of Iron may be used, but the Phosphate and the Cyanide have, as a general thing, given the greatest satisfaction. Strychnia, and the extract of St. Ignatius' Bean, have been found very useful, and may be given, if they are indicated. Cannabis Indica has been highly extolled in these cases, but its value has not been established beyond doubt.

Of the solvents, Gold, and its preparations, have proved so entirely satisfactory that they should be used, both to remove any cancerous matter that may be absorbed from a tumor, and to prevent an accumulation in any part of the system which may form the nucleus for another cancer. Prussiate of Potassa, Bromide of Potassa, Chlorate of Potassa, Chloride of Bromine, Chloride of Zinc, Permanganate of Potassa, and the preparations of Manganese, may with safety be used in appropriate quantities, and one or other of them may be used for months and years, and their use persisted in as long as there is any danger of a reappearance of the cancer. But, while the internal and local use of these agents has seemed to remove large and painful cancerous growths, as has been said, the use of the knife should never be unduly delayed.

Diagnostic Signs of Cancer. As many forms of disease of the breast have been pronounced cancer, and have been treated as such, which have no claim to that application, it may be well to give the *diagnostic signs*, in a brief manner, that those who are called upon, may pronounce with certainty, whether the disease of the breast is of a malignant character or otherwise.

Diagnosis in this disease is not always easy or certain, and doubtless many breasts have been sacrificed, and much suffer-

ing endured, either because of this difficulty, or because unprincipled persons have chosen to mislead for the credit of curing a cancer when none has existed. The numerous cases of deception of the latter character, render an ability to determine the nature of the disease of great value both to humanity and the physician; and many have supposed that by the aid of the microscope, the true nature of the suspected growth could always be determined with certainty. Of late years, however, the most astute microscopists have admitted the fallacy of microscopical investigation; and as that instrument cannot well be used in many cases, to determine the nature of the tumor when the surgeon is first called upon to treat it, a resume of other diagnostic signs is the more desirable.

Cartilaginous, *fibrous*, or *fibro-cartilaginous* tumors, may be mistaken for cancer, and sometimes are distinguished from scirrhus with difficulty, as they are hard, indolent, and sometimes knobbed. The *age* of the patient may aid in the diagnosis, as well as the character of the pain, if any be present. So also, *treatment* may assist, and *time* may fully determine the matter.

Encysted tumors occur, but usually unattended with any pain, and as the tumor is *not* hard, mobile or circumscribed, and the general health is usually unaffected, except when the tumor becomes unusually large, the diagnosis is not difficult, except in the earlier stages.

Simple induration, is as much more common than hydatid or encysted tumors, as they are of more frequent occurrence than hard tumors. These are a somewhat frequent accompaniment of disturbed menstruation, and occur quite early in life. Sir Charles Bell saw as many females from the age of sixteen to that of thirty-five, at the hospitals, with lumps in their breasts, as he saw later in life with true cancers; and he said he could trace both forms of disease to "irregular uterine action." This is the disease which Cooper calls "irritable tumor of the breast."

It is distinguishable from scirrhus by occurring earlier in life, as a usual thing, but it sometimes makes its appearance at the cessation of the menses, when of course age does not aid in the diagnosis. But when the disease occurs earlier in life, the

age becomes a negative fact to aid in settling the question. Unlike scirrhus, it is tender, and painful to the touch, is often slightly inflamed, and usually yields readily, after correction of the uterine derangement, to local applications.

In this class of derangements of the breast may also be included hardenings caused by the pressure of the dress, external injury, or carelessness in handling those organs, and the distinctive diagnostic symptoms are the same.

Scrofulous swellings sometimes have been mistaken for scirrhus, but the nature of the case will be sufficiently manifest to all enlightened practitioners, and an error in diagnosis in those cases must be the result of unjustifiable ignorance of the profession, or a more culpable endeavor to deceive.

The simple chronic tumor of Cooper, or *Pancreatic tumor*, as it has been styled by others, seldom attacks young persons, first appearing on those over thirty years of age. It is quite superficial, appearing as if one or more lobes of the gland were swollen, is not as hard as scirrhus, is extremely movable, usually painless, and grows very slowly, and is not nodulated nor tuberculous.

Fungus hæmatodes, or, as it is frequently called, *Vascular Cancer*, is fatal in its tendency, and should be treated as has been directed in regard to cancer. This form of disease, unlike true cancer, may occur at all ages; is never hard like true scirrhus, and as it grows in size it becomes softer; yields to the pressure of the fingers; after a few months gives a livid appearance to the skin, with a distinct fluctuation of the fluid within the cyst, and which fluctuation may mislead, and even cause the surgeon to suppose the tumor a simple abscess, and perhaps to lay it open, to the great danger of the patient; there will likewise be a great enlargement, or even a varicose condition of the veins, with a constantly increasing darkness of the skin, until it ruptures, when there is a discharge of a dark bile-like fluid, having a very disagreeable nauseating odor.

This form of disease is softer than scirrhus, is more gradual in its growth, is not accompanied with darting pains, puckering of the skin, retraction of the nipple, or by early impairment of the general health.

Among other diseases of the breast, which have been mistaken for cancer of that gland, are what are called *Glandular Proliferous Cysts*, of the nature of those found in the thyroid gland, where, however, they seldom cause other uneasiness or derangement than those resulting from their size and consequent pressure upon important subjacent organs or tissues. As these proliferous cysts are often mistaken for fungus hæmatodes, and even for scirrhus, it is thought best to describe them somewhat minutely.

In the mammæ, such cysts may be formed by the dilatation of points, or brief spaces of ducts and vessels, but much more frequently from a morbid growth or transformation of the structure of the gland substance. They are usually globular or ovoid in shape, but the shape is liable to be changed by compression. Their walls are formed by fibrous tissue, and are well supplied with blood-vessels, but not with nerves. The walls are closely adherent to the adjacent structure, and are apt, when diseased, to become edematous, soft, or almost gelatinous.

These cysts sometimes extend to an enormous size, and may contain almost any variety of serous or bloody fluid. Liston removed one weighing even twelve pounds, and Dr. Warren, one weighing thirteen pounds.

Although these tumors always commence as cysts or hollow bodies, there may be a granular growth, like granulations or proud flesh, spring from their internal walls, which, by its growth, partially or wholly fills up the cavity; or it may burst open the cyst and protrude into the adjacent tissues, or even through the skin, and constantly be reproduced when cut away; and in the latter condition be mistaken for what is called a *Rose cancer*, and treated as such.

These cystic tumors at first are painless, and quite slow in their growth for the first few years, but afterward are quite rapid in their increase, much more so than the growth of most cancerous tumors. The character that a tumor assumes, and the appearance it presents, when there is a growth within a cyst, or which has filled it and burst its walls, varies greatly, not only at its various stages of growth, but also apparently

from its origin, and thus through all the stages of its progressive increase of size.

In their earlier existence, they may appear low, or deeply seated, with a broad base, with convex layers, like coarse granulations, globular, lobed, in nodes, or nodulated masses, in form resembling a cauliflower, and with a narrow base, or pedunculated; in layers, like leaves, variously branched and interlaced.

The structure of these growths is as varying as their form and appearance. They may be opaque, yellow, soft, yet elastic and somewhat tough; or vascular, spongy, fleshy, and like ordinary granulations; like the vitreous humor of the eye, or gelatinous, and secreting a fluid resembling the synovia of the joints, (colloid;) or firm, compact, and closely resembling the gland of the mamma. These various forms and structures may be of nearly all shades of color, from yellow, through pink and grey to purple. They may be found just springing from the wall of the cyst, or filling any part of it, or protruding through its walls, into the surrounding tissues, or even through the integuments.

In regard to their minute structures, as revealed by the microscope; they are lobed, or tubular, and these lobes or tubules are lined or filled with nucleated cells, like the excreting glands and surfaces.

They change the form and size of the mammæ, and that change will be as various as the varying form or size of the morbid growth will produce, from a scarcely observable derangement of size or outline to those of great dimensions.

Although these encysted tumors of the breast, and even the growths which spring from the walls of the cysts, are by the best pathologists considered to be *non-malignant*, yet they are very apt, in some cases, to recur again, after removal, even when the utmost vestige of the morbid growth has been destroyed. Hence the care that must be exercised in pronouncing an opinion of the results to be hoped from any mode of extirpation. This tendency to a recurrence has sometimes been received as an evidence of malignancy, or, that the disease was *cancer;* but many instances are on record tending to prove that this disposition to reappear is much greater in cases

of proliferous cystic tumors, than in cases of well developed cancerous disease.

But while the more reliable observers, and the more able pathologists, agree in the opinion that these proliferous cystic tumors are *not* cancerous in their nature, they also have observed that genuine cancer sometimes imitates these tumors in its mode of growth and development. Cancerous tumors have been found in cysts, both in those which are non-malignant, and in cysts *produced within cancers;* as in ovarian cysts, and in medullary cancerous tumors of the testicles.

These cysts should be extirpated by the same treatment advised in regard to cancer, but without subjecting the patient to the long-continued after-treatment, necessary in all cases of true cancer.

There are other diseases of the breast which have been mistaken for cancer of that organ; however, none but those who have never investigated the matter thoroughly are liable to the error named.

But as some have misled their patients, even where there is reason to suppose the pretender *could not* be so ignorant as to be himself mistaken, and as this book will probably be read by some who have not received a professional education, a recapitulation, in a brief form, of the diagnostic and pathognomonic symptoms of this disease may not be out of place.

Pathognomonic Symptoms of Cancer of the Breast. Hardness. The peculiar hardness of the tumor will serve to distinguish the disease from all others except fibrous and cartilaginous tumors, and, perhaps, some forms of induration, but other signs will determine the matter.

Insensibility on pressure. However painful a cancerous breast may be, pressure, steadily and uniformly applied, does not increase the pain in any considerable degree. Indeed, as has been stated, steady and systematic pressure has been tried to produce absorption and thus cure cancer. Other forms of tumors of the breast, as induration, rheumatic swelling, abscess, phlegmon, etc., are all painful on pressure, and hence the absence of pain on pressure is a valuable pathognomonic symptom of the disease.

Weight. The actual, as well as the apparent weight of a

cancerous tumor of the breast, is greater than that of any other tumor of the organ, except those of a fibrous or a cartilaginous character.

Surface. In nearly all instances the surface of a scirrhus is knobbed, and of a very irregular outline. It is true, in some instances, fibrous and cartilaginous tumors have presented inequalities of surface, but seldom of a character to lead an experienced person astray.

Impressibility to ordinary modes of treatment. Most, if not all chronic indurations and tumors of the breast, with the exception of fibrous tumors, cartilaginous tumors, fungoid tumors, and pancreatic tumors, are amenable to the action of dissolvent and anti-inflammatory applications, and hence their use is very valuable in determining the nature of the difficulty

Pain of a darting or lancinating character. This is so good a pathognomonic symptom of cancer, that many have been led to give the name to neuralgic and other pains, not partaking of these characteristics. In referring to the character of the pain, however, the physician must guard against any error which the fear or anxiety of the patient may lead her to fall into. Perhaps no disease of the breast except cancer, and occasionally a tumor of the hepatic kind, ever causes a pain of the true lancinating character.

Puckering of the skin, if distinct and positive, and when there has not been an abscess, is a pathognomonic sign of value.

Apparent retraction of the nipple, is also often present in cancer, and not in any other form of disease.

Involvement of the adjacent structures, while they are still painless to the touch. Most diseases of the breast simulating cancer do not appear to coalesce with the skin or the subjacent muscles; but cancer always does, not being surrounded by any investing membrane.

The peculiar appearance or color of the skin. No other tumor of the breast except those of a fungoid character, give to the skin over the tumor the peculiar violet or bluish tinge present in scirrhus.

Swelling of the axillary glands. In some rare cases of simple induration of the mammary glands, those of the axilla become affected. This complication is quite common in cancer.

In addition, the *age* of the patient, the *history* of the disease, presence or absence of *hereditary* predisposition, with a proper reference to the diagnostic signs given, must enable most surgeons to pronounce with confidence and safety as to the presence of cancer, while yet it is in the scirrhus form.

After ulceration has occurred, many of these diagnostic and pathognomonic symptoms may be present. But those absent have their place supplied by the peculiar, hard, and perhaps luxuriant growth of granulations; by the secretion of the ulcer, which is never a healthy pus, and always evolves a peculiar and offensive odor known as the *cancer* odor; by the peculiar form of the sloughings and excavations; by the edges of the ulcer being everted; by the absorbent glands being more and more affected; by the action of applications; and by the past history of the disease.

The ability to be able to determine the nature of a disease of the breast, whether in the earlier or later stage, is obviously of great value to a surgeon. But while so many professed *cancer curers* base their reputation mainly, if not entirely, on a misapprehension of the cases brought under their treatment, calling simple, non-malignant affections, *cancers*, and charging enormous prices for their cure, thus subjecting females to intense and long-protracted sufferings, and in many instances to the loss of their breasts, or even their lives; the ability of the *people* to judge of the nature of these diseases, is of scarcely less importance than for the profession to do so, and hence the special value of this recapitulation of the diagnostic and pathognomonic signs of cancer of the breast.

Appearances of Cancer of the Breast after Excision. Sometimes there is a doubt in the minds of physicians and patients in regard to the true nature of a disease of the breast, even after excision.

Scirrhus of the breast, when somewhat indolent, on extirpation, is of a globular or ovoid shape, knobbed, and adherent to surrounding tissues. It may be seated in the gland, or any other part of the breast. On being cut into slices, it is seen to be formed of a greyish, or bluish-white substance, and of a consistence between lard and cartilage. In the tumor intermixed with the true scirrhous tissue may be observed the

structure of the gland, the areolar tissue, blood-vessels, or ducts, unchanged; or they may be more or less degenerated and transformed into cancer tissue.

Painful scirrhus, or when the disease has made more progress, after extirpation, has the same general appearance, but is softer, and the natural structures are more changed. A creamy, or whey-like liquid may be pressed out in large drops. Some part of the tumor is soft. By increase of growth it has reached and become adherent to the skin, and probably to the subjacent pectoral muscle. The surface is more markedly knobbed and irregular.

Carcinoma, or ulcerated cancer, when extirpated, evolves the peculiar *cancer odor*, but less powerfully than the same ulcer did before extirpation. The general appearance of the cancerous mass is similar to that already described, but usually the disease has extended so as to involve more of the neighboring tissues, as skin, areolar tissue, muscles, vessels, and even bones.

Appearance under the Microscope. Cancerous masses are composed of four elements, in addition to the blood-vessels, and the natural structures they involve:

1. A homogeneous substance, which serves as a matrix.
2. Fibrous structure, resembling healthy white fibrous tissue in appearance.
3. A vast variety of *cells*, some of which have been supposed to be peculiar to cancer, and hence have been denominated "cancer cells," with their nuclei and nucleoli.
4. A peculiar cream-like, or whey-like fluid, already mentioned, and called "cancer juice."

These elements vary in proportions, in the various forms of cancer. In scirrhus, the homogeneous matter and fibers are abundant. In what is known as "colloid," there is a preponderance of a peculiar gelatinous fluid. In the "encephaloid" variety, the cancer is composed mainly of cells. These three forms of cancer are often found combined in the same mass. In the "melanotic" variety, pigment cells are commingled with the cancer mass.

It should be distinctly understood that neither the homogeneous substance, nor the fibrous matter, is *peculiar* to cancer.

The fluid called "cancer juice," and the "cancer cells," may perhaps be considered peculiar to cancer, but they are not always present. The cancer juice is often absent.

Dr. Donaldson has described the cancer *nuclei*, whether enclosed within a cell or free, as round or ovoid in shape, with a length of from 1-2500 to 1-1650 of an inch. In width they measure from 1-3325 to 1-2500 of an inch. In cancer cells, the nucleus varies greatly in size and in its locality within the enclosing cell, and often there are observed two or more within the same cell.

The *nucleoli* are peculiarly bright in appearance, of a yellowish tinge, and average about 1-12500 of an inch in diameter. To see these nucleoli clearly and observe their characteristics, a *fresh* specimen of cancer must be submitted to the microscopic examination.

The *cancer cells* are of various forms, and Dr. Donaldson has named some of the varieties as the Caudated, Polygonal, Fusiform, Concentric, Agglomerated, and Compound or Mother-cell.

These various substances should be well understood, and the examiner well conversant with the use of the microscope, or error may arise.

The *fusiform corpuscles of plastic tissue*, may be readily mistaken for the fusiform cancer cell; but they are much larger than the similar cancer cells, being from 1-775 to 1-450 of an inch in length. *Fibro-plastic cells* are polygonal or ovoid in shape, and vary from 1-5000 to 1-1650 of an inch in length, but their *free nuclei* are very much smaller than those of cancer cells. Mr. Bennett thinks that the cells escaping from *enchondromatous tumors* while they are softening, may be mistaken for cancer cells.

Much has been said of late, in regard to the value of the microscope in determining the character of a tumor supposed to be cancerous; some supposing the microscope to be of *no value* in the diagnosis of cancer, while others have contended that its revelations are the only ones on which reliance should be placed. Whatever may be the final decision of this question in regard to *fully developed cancer*, it must be apparent, that, in the earlier stages of the malignant growth, when the cancer,

cells do not present their peculiar characteristics, and are closely allied in appearance to fibro-plastic and other cells, it must be *impossible* to determine the matter by the microscope.

Cancer may exist, but the peculiar cell may be present in such small numbers as not to fall under the field of the microscope, and a negative conclusion may be arrived at, and hence a reliance on the instrument in such cases must lead astray.

In cases of well-developed cancer, where the cells are fully formed and plentiful, the microscope *in the hands of one expert in its use*, and in *the examination of these morbid growths*, is entirely reliable, and will prove of great value in enabling the observer to see what is not visible to the naked eye, and in measuring very minute objects. But the sight alone, even when aided by the best instruments and the experience of thorough training, must never, unassisted by all the aids furnished from other sources, be relied on in the diagnosis of this disease.

(Females laboring under cancer, either of the breast, or of the uterus, are liable to suffer extreme pains; to relieve which, as well as those pains attending other severe diseases, Prof. A. J. Howe has found the following *anodyne powder* to be of great benefit: Take of Strychnia one grain, Sulphate of Morphia five grains, Sulphate of Quinia ten grains, Liquorice powder twenty grains. Mix; divide into twenty powders, and give one for a dose, repeating it every four or six hours, according to the symptoms)

PART V.

PHARMACY.

STYPTIC BALSAM. (*Warren's.*) Take of Sulphuric Acid, by weight, five drachms; Oil of Turpentine two fluidrachms. These materials should be of the purest kind.

Place the Sulphuric Acid in a wedgewood mortar, and slowly add the Turpentine to it, stiring the mixture constantly with the pestle; then add the Alcohol in the same manner, and continue stirring until the fumes cease to arise, when place in a bottle well stopped with a glass stopper. If properly prepared, the mixture will be of a dark but clear red color, like dark blood; but if it be of a pale, dirty-red color, it will not be fit for use. After a few days, a pellicle forms upon the surface, which must be broken, and the liquid below it used.

This balsam has been used by its originator for nearly thirty years, and with uniform success. It acts both by its sedative power, in diminishing the force of the circulation, and by its astringent qualities, in contact with the bleeding vessels. He has used it in bleeding from the lungs, stomach, nose, and uterus, and in excessive menstruation; in the first complaint it is not necessary to confine the patient to the room, suppress the voice, nor neglect business; nor is any auxilliary treatment required, except, perhaps, a purgative dose, where there is evidence that blood has been swallowed. Exercise in the open air is preferable to inaction. Into an ordinary teacup place a teaspoonful of brown sugar, add forty drops of the above Bal-

sam to it, and thoroughly incorporate the two by rubbing them together; then slowly stir in water until the cup is nearly full, when it should be immediately swallowed. This dose may be repeated every hour for three or four hours, and its use should be discontinued as soon as fresh blood ceases to flow.

MILD VEGETABLE CAUSTIC. Dissolve Bicarbonate of Potassa four ounces, in Water one pint; strain the solution and evaporate by a heat slightly above the boiling point, and when sufficiently evaporated set the residue aside to cool; if it be damp, it may be dried in a gently-heated dry air.

This caustic is much used as an application in the treatment of fistulas, cancers, fungous growths, indolent or malignant ulcers, &c. Its action is principally expended on unhealthy tissues, arousing them to a state of health, without causing any great amount of inflammation. It has also been used, either in powder, or in solutions of various strengths, in chronic inflammatory conditions of the mucous tissues, as in diseases of the eye, nose, mouth, throat, vagina, urethra, &c. A weak solution has been found useful as an injection in leucorrhea, chronic inflammation of the rectum, &c.

HOT AIR BATH. SPIRIT VAPOR BATH. This bath exerts a most powerful, yet beneficial influence upon the whole system, aiding very materially our endeavors to remove disease. This highly valuable mode of producing activity of the cutaneous vessels, has long been practiced in many sections of the country as a remedial agent, and was first introduced to the medical profession by myself, about twenty years ago, since which it is much in use among physicians. The advantages to be derived from this method of producing perspiration are very great, and it is not followed with any of those injurious consequences which often attend the internal administration of a sudorific.

It is to be given as follows:—The patient is undressed, ready for getting into bed, having removed the shirt and underclothing worn through the day, and put on a night-shirt, or other clothing, to be worn only while sweating, and during the night, if the bath be taken at bedtime. He is then seated on a high

windsor, or wooden-bottomed chair; or, instead thereof, a bench or board may be placed on a common open-bottomed chair, care being taken that the bottom is so covered that the flame will not burn him. After seating himself, a large blanket or coverlid is thrown around him from behind, covering the back part of his head and body, as well as the chair, and another must be passed around him in front, which last is to be pinned at the neck, loosely, so that he can raise it and cover his face, or remove it down from his face, from time to time, as occasion requires, during the operation of the bath. The blankets must reach down to the floor, and cover each other at the sides, so as to retain the vapor, and prevent it from passing off.

This having been done, a saucer or tin vessel, into which is put one or two tablespoonfuls of Whisky, Brandy, Spirits, Alochol, or any liquor that will burn, is then placed upon the floor, directly under the center of the bottom of the chair, raising a part of the blanket from behind, to place it there; then light a piece of paper, apply the flame to the liquor, and as soon as it kindles, let down the part of the blanket which has been raised, and allow the liquor to burn until it is consumed, watching it from time to time, to see that the blankets are not burned; as soon as consumed, put more liquor into the saucer, about as much as before, and again set it on fire—being careful to put no liquor into the saucer while the flame exists, as there would be danger of burning the blanket, patient, and perhaps the house. Continue this until the patient sweats or perspires freely, which, in the majority of cases, will be in five or ten minutes.

If, during the operation, the patient feels faint or thirsty, cold water must be sprinkled or dashed in his face, or he may drink one or two swallows of it—and in some cases the head may be bathed in cold water. As soon as free perspiration is produced, wrap the blankets around him, place him in bed, and cover him up warm, giving him about a pint of either good store tea, ginger, or some herb tea to drink, as warm as he can take it. After two or three hours, remove the covering, piece by piece, at intervals of twenty or twenty-five minutes between each, that he may gradually cease perspiring.

There is no danger of taking cold after this Hot Air bath, if the patient uses ordinary precaution, and if his disease will allow, he can attend to his business the next day the same as usual. In fact, the whole is a very easy, safe, agreeable and beneficial operation, much more so than the mere reading of the above explanation would lead one to suppose.

This mode of producing perspiration is highly beneficial in severe colds, pleurisy, rheumatism, and all febrile and inflammatory attacks, diarrhea, dysentery, sluggishness of cutaneous vessels, &c. In acute diseases, it may be repeated once a day, if required; in chronic diseases, once or twice a week, or once a fortnight, according to indications, or the strength of the patient. Where it can be done, it is desirable to bathe the patient with an alkaline wash, both before and after this bath.

FIRING. — Obtain a thick iron-wire shank, about two inches long, and inserted into a small wooden handle; on its extremity, which must be slightly curved, have a disk or button of iron, exactly one quarter of an inch thick, and half an inch in diameter. The whole instrument to be only six inches in length. The face of the disk for application must be flat. Every family should be in possession of one of these instruments.

To apply it, light a small alcohol lamp, and hold the button over the flame, keeping the fore-finger of the hand holding the instrument, at the distance of about half an inch from the button. As soon as the finger feels uncomfortably hot, the instrument is ready for use, and the time required for heating it to this degree will be about half a minute. It is to be applied as quickly as possible to the parts, the skin being tipped successively, at intervals of half an inch, over the affected part as lightly and as rapidly as possible, always taking care to bring the flat surface of the disk fairly in contact with the skin. In this way, the process of Firing a whole limb, or the loins, making about one hundred applications, does not occupy a minute, and the one heating by the lamp suffices. To ascertain whether the heat be sufficient, look sideways at the spots as you touch them, and each spot will be observed of a shining white, much whiter than the surrounding skin. In from five

to thirty minutes, the skin becomes bright red, and a glow of heat is felt over the part. The iron must never be made red-hot—it is very little hotter than boiling water—should never make an eschar, and rarely raise a blister. On the next day after its application, a number of circular red marks will be seen on the skin, the cuticle not even being raised, and the surface ready, if necessary, for a fresh application. It is much superior to a blister in many cases, and the most delicate female will not object to its frequent repetition when required. This acts as a powerful counter-irritant in paralysis, local muscular rheumatism, sciatica, lumbago, neuralgic pains, &c. Also applied along each side of the spinal column in intermittents, epilepsy, mania, and similar diseases.

HÆMASTASIS. This is a term applied to the retention of venous blood in the extremities by ligature. A handkerchief, or any suitable cord, is to be tied around the upper part of the arms, and the thighs, and then, by means of a piece of wood, the ligature is to be turned or twisted sufficiently tight to check the circulation of the venous blood, but not the arterial, which last, when checked, will cease to give pulsations in the limbs thus ligatured. In a short time the arms and legs will be much distended, and an amount of blood removed from the trunk and retained in the limbs, which the most heroic practitioner would not dare to remove by the lancet. If the subject faint, promptly loosen or remove the ligatures; if he be plethoric and of firm, vigorous constitution, he must be reduced by cathartics, diuretics, and sudorifics, and, at the time of the operation, be under the influence of gentle nauseants. Hæmastasis has been found very useful in bleeding from the womb, lungs, stomach, &c., congestions, puerperal convulsions, inflammations of the brain, lungs, bowels, and in cases where it is deemed advisable to lessen the amount of blood in the head and trunk, without debilitating or injuring the system by its entire removal.

COMPOUND LINIMENT OF OIL OF AMBER. Mix together Oil of Stillingia and Rectified Oil of Amber, of each, four fluidrachms, Oil of Lobelia one and a half fluidrachms, and Olive Oil one fluidounce.

This is a stimulant and antispasmodic liniment, useful in asthma, rheumatism, spasmodic affections, hooping-cough, &c., it is usually applied along the whole spinal column, repeating the application two or three times a day, also rubbed over the affected parts. It must not be used in too large quantity at a time.

CROTON OIL LINIMENT. Mix together Croton Oil four fluidrachms, with Oil of Turpentine three and a half fluidounces.

This is a rubefacient application, and which if used continuously for several days, will cause pustulation. Fifteen or twenty drops may be applied at a time, repeating it two or three times a day, according to the effect desired.

LOTION OF GOLDEN SEAL AND ACONITE. To a concentrated decoction of Golden Seal one fluidounce, add Tincture of Aconite half a fluidrachm; mix.

This is useful in many affections of the eye, and in chronic inflammations of mucous surfaces; a drop or two may be placed on the eye-ball two or three times a day. In some cases the Tincture of Aconite may be omitted, and Tincture of Black Cohosh half a fluidrachm, or a fluidrachm, be advantageously substituted.

COMPOUND LOTION OF GOLDEN SEAL. To a strong decoction of Green Tea, and Golden Seal, each, half a pint, add of Sulphate of Zinc, Gunpowder, and dried Sulphate of Iron, each, one drachm. Dissolve the powders in the mixed decoctions, and after decomposition has ceased, and the precipitate has subsided, pour off the clear liquid.

This lotion is used in chronic diseases of the eye; it may be applied three or four times a day.

COMPOUND LOTION OF MURIATE OF AMMONIA Take of Muriate of Ammonia four drachms; Distilled or Rain Water two fluidounces; dissolve the Ammonia in the water, and then add Tincture of Conium Maculatum ten fluidrachms. *Prof. C. H. Cleaveland.*

This is a solvent lotion, and will be found very useful as a local application to all tumors; the parts should be bathed with it three or four times a day, and, in some cases, it will be necessary to keep a compress over them constantly moistened with the lotion. It is likewise useful in sprains, bruises, &c.

COMPOUND LOTION OF ZINC. Take of Sulphate of Zinc, Rock Alum, each, ten grains, Water one pint; dissolve and filter.

This is a stimulating wash, used for films, specks, opacities, &c., of the eyes; also to indolent ulcers, and chronic inflammations of mucous surfaces.

COMPOUND MYRRH LOTION. Take of powdered Myrrh two drachms; Sulphate of Zinc two scruples; Acetate of Lead one drachm; Boiling water one pint. Add the powders to the water, let them macerate for eight or ten days, and filter. In the preparation of this lotion, a decomposition necessarily ensues.

This is used principally in chronic inflammation of the eyes; it may be applied two, three, or four times daily, and if its action be too severe, it may be weakened by the addition of water.

COMPOUND SOLUTION OF IODINE. Take of Iodine half an ounce, Iodide of Potassium one ounce, Rose Water, or Distilled Water, a pint. Dissolve the Iodine and the Iodide of the Potassium in the water.

This solution should be kept in a well-stopped bottle, and in a dark place. It is a stimulant, alterative, diuretic, and emmenagogue, and is useful in all syphilitic, rheumatic, and scrofulous diseases, and in suppressed menstruation, and other functional derangements of the womb. The dose is five drops, three times a day, in half a fluidounce of water, gradually increasing it to fifteen or twenty drops.

COMPOUND OINTMENT OF IODINE. Triturate Iodine fifteen grains, and Iodide of Potassium half a drachm,

with Alcohol half a fluidrachm; then add Lard one ounce, and continue the trituration until they are well mixed.

This is used in scrofulous and other tumors, bronchocele, enlarged tonsils, &c. The discoloration of the skin occasioned by its use gradually disappears.

IODINE PILLS. Take of Iodine twenty grains, Sulphate of Morphia two grains, Leptandrin forty grains; triturate together in a glass or Wedgewood mortar, and make into a pill-mass with simple syrup or Extract of Liquorice a sufficient quantity, and divide into forty pills.

These pills are very useful in scrofula, and all diseases in which Iodine is recommended. One pill may be taken every night and morning.

COMPOUND PILLS OF HIGH CRANBERRY. Take of Aletridin, Alcoholic Extract of Blue Cohosh, Extract of Partridge-berry, each, one drachm; Alcoholic Extract of High Cranberry two drachms; mix thoroughly together, and divide into eighty pills.

These pills are very efficacious in female diseases, as suppressed menstruation, painful menstruation, leucorrhea, sterility, &c.; also in spasmodic affections, cramps during pregnancy, &c. One or two pills may be taken two or three times a day.

COMPOUND PILLS OF LEPTANDRIN. Take of Leptandrin one drachm, Podophyllin half a drachm, Extract of Rhubarb a sufficient quantity. Mix together, and divide into sixty pills.

These pills are useful as a cholagogue medicine, and have been used in affections of the liver, dysentery, obstinate constipation, &c. One or two pills may be taken twice a day.

COMPOUND PILLS OF MOTHERWORT. Take of Leptandrin, Alcoholic Extract of Black Cohosh, each, one drachm; Aletridin, Hydro-Alcoholic Extract of Motherwort, each, two drachms. Mix thoroughly together, and divide into sixty pills.

These pills are useful in many diseases of the womb, acting

as a uterine tonic and alterative. The dose is one pill every one, two, or four hours, according to the urgency of the case.

COMPOUND PLASTER OF BELLADONNA. Take of Resin Plaster three ounces, Extract of Belladonna, Extract of Poison Hemlock, (*Conium Mac.*) each, one ounce and a half, powdered Iodine half a drachm. Melt the Resin plaster, then add in the extracts, triturate thoroughly together and when nearly cool, add the Iodine.

This plaster is an efficacious application to scrofulous and other tumors, goitre, white swelling, neuralgic, syphilitic, and rheumatic pains, &c.

COMPOUND TAR PLASTER. Boil Tar three pounds, for half an hour; then add Burgundy Pitch one pound and a half, White Gum Turpentine one pound, (having previously melted them together, and strained.) Stir them together, remove from the fire, and add finely powdered Mandrake root, Bloodroot, Poke root, Indian Turnip, of each, ten ounces. Incoporate well together.

This plaster is irritant, rubefacient, and suppurative, and may be used in all cases where counter-irritation or powerful revulsion is required. It has been used with success in neuralgia, rheumatism, and other painful affections, as well as in chronic inflammation of internal organs. It should be spread thinly on soft leather, renewing it every day, on the same leather. Three or four days generally pass before it produces suppuration, after which it should be renewed as often as the discharge may require. The sore produced by it should not be wet, as it will be rendered more painful. If too much suffering be caused by this plaster, it may be removed, and the part healed, by simply applying a linen cloth on which mutton tallow has been spread. Any great degree of inflammation or irritation caused by it, may be removed by an Elm poultice.

RED OXIDE OF LEAD PLASTER. Melt together Olive Oil one quart, Resin and Beeswax, each, one ounce; raise the heat until a feather dipped into the mixture will scorch, that is, to the boiling point, and then add gradually powdered Red

Lead three quarters of a pound. Stir constantly, until the Oil and Lead unite, as known by the black color of the preparation; then set the mixture aside, stirring it until it becomes cool, when powdered Camphor, four scruples, may be added.—*H. Whiting.* Do not remove the above from the fire until it becomes brownish or black, and forms a thick salve when allowed to cool upon a knife dipped into it.

This plaster is a valuable application to scrofulous, syphilitic, and other ulcers, burns, scalds, and several diseases of the skin. This is the Black Salve of the *Prussian Pharmacopœia.*

COMPOUND POWDER OF IPECACUANHA AND OPIUM. Take of Opium, in powder, ten grains, Camphor, in powder, two scruples, Ipecacuanha, in powder, one scruple, Nitrate of Potassa eight scruples; mix thoroughly together.

This is an anodyne and diaphoretic preparation, useful in all febrile, inflammatory, rheumatic, nervous, and painful affections. It relieves pain, allays nervous irritation, promotes perspiration, quiets the system, and disposes to sleep. The dose is from three to five grains every three or four hours, or oftener, if required. Warm herb teas, drank freely, promote its diaphoretic action.

COMPOUND POWDER OF LEPTANDRIN. Mix together powdered Podophyllin ten grains, Leptandrin one scruple, Sugar of Milk five scruples; when thoroughly triturated, divide into sixteen powders.

This is a cholagogue cathartic of immense benefit in epidemic dysentery; a powder may be given every hour or two, until it operates freely. It is also useful in typhoid, remittent, and intermittent fevers, with or without the addition of Sulphate of Quinia, and in all derangements of the biliary apparatus. In doses of three or four grains, every three or four hours, it is an excellent alterative.

POWDER OF RHUBARB AND POTASSA. Take of Rhubarb two drachms; Bicarbonate of Potassa one drachm; mix thoroughly together.

This is a very valuable laxative preparation, keeping the bowels in a regular condition when given in doses varying from five to twenty grains, three times a day. In half teaspoonful or teaspoonful doses, repeated every one, two, or three hours, in some peppermint water, it is very efficacious in diarrhea, cholera-morbus, dysentery, &c., and in smaller doses in summer complaint of children, acid stomach, heart-burn, and as a mild laxative during pregnancy.

AROMATIC SPIRIT OF AMMONIA. Take of Muriate of Ammonia two and a half ounces; Carbonate of Potassa four ounces; Lemon Peel two ounces; Cloves, Cinnamon, of each, bruised, one drachm; Alcohol, Water, of each, two and a half pints. Add the articles together in a retort, and distil off three and three quarter pints.

This is an aromatic stimulant and antacid, and may be used in hysteria, fainting, flatulent colic, sour stomach, sick headache, &c. The dose is from thirty to sixty drops, in sweetened water.

PAGLIARI'S STYPTIC. Take of Alum four ounces, Tincture of Benzoin two ounces, Water two and a half pounds; mix, and boil for six hours in a glazed earthen vessel. As the water evaporates it must be constantly replaced by hot water, so as not to interrupt the ebullition, and the resinous mass must be stirred constantly. Then filter the fluid and keep in stoppered bottles. It is limpid, color of champagne, styptic in taste, and aromatic in odor. White resin has been successfully substituted for the benzoin. Every drop of this fluid poured into a glass containing human blood produces an instantaneous magma; and by increasing the proportion of the styptic to the quantity of the blood, a dense, homogeneous, blackish mass results. It is said to be useful in all arterial and venous bleedings. In applying it, lint and bandages should be used to prevent the coagula which forms from being removed from the mouths of the blood-vessels; an application of them for twenty-four or forty-eight hours is sufficient.

COMPOUND SYRUP OF PARTRIDGE-BERRY. Take of Partridge-berry half a pound, Helonias, Blue Cohosh, and

High Cranberry bark, each, two ounces; cover the whole with good Brandy, two pints, and let them macerate for three or four days. Then press out the brandy and there will be about one pint and a half obtained, which reserve. Place the herbs in Boiling Water six pints, and slowly boil down to two and a half pints. Strain, add Sugar one pound, and evaporate to two and a half pints. Remove from the fire, and when nearly cold add the reserved pint and a half of tincture.

This is a valuable agent in all derangements of the female reproductive organs, as suppressed menstruation, painful menstruation, profuse menstruation, leucorrhea and habitual abortions. It imparts tone and vigor to the uterus, on which account it is very useful for those females who are apt to have tedious labors from a want of proper uterine action; in these instances, it should be taken during the last two or three months of pregnancy. The dose is from half a wineglassful to a wineglassful, two or three times a day.

The "*Parturient Balm*," is a preparation used by some practitioners for similar purposes to the above; it is made as follows: Take of Spikenard and Blue Cohosh, each, half a pound; Partridge-berry, Queen of the Meadow, and Black Cohosh, each, four ounces; Comfrey and Ladies' Slipper root, two ounces. Cover the whole with a pint and a half of good Brandy, let them macerate for three days, and press out the Brandy, which will amount to one pint, which reserve. Place the herbs in Boiling Water, one gallon and a half, boil slowly down to one gallon, add sugar six pounds, and evaporate to one gallon; remove from the fire, and when nearly cold add the reserved pint of tincture. The dose is a tablespoonful three or four times a day.

COMPOUND SYRUP OF RHUBARB AND POTASSA. Take of best India Rhubarb, in coarse powder, and Bicarbonate of Potassa, each, half a pound; Cinnamon, Golden Seal, each, four ounces; macerate for two days in best fourth proof Brandy, one gallon; then express the tincture with strong pressure, and add to it Oil of Peppermint two fluidrachms, previously dissolved in a little Alcohol.

Break up the cake or compressed residue from the press,

and place it in a displacement apparatus, and gradually add warm water, until the strength of the articles is exhausted. Evaporate this solution to eight pints, and while the liquor is still hot dissolve in it Refined Sugar, six pounds. Continue the evaporation, if necessary, until, when added to the tincture first obtained, it will make three gallons, and mix the two solutions together.

This is a pleasant antiacid and laxative preparation, very useful in diarrhea, dysentery, cholera-morbus, summer complaint of children, and in the same diseases as the Compound Powder of Rhubarb. It may likewise be used in cases of piles, in habitual costiveness, and to act on the bowels during pregnancy. The dose for an adult is a tablespoonful every half hour, hour, or two hours, according to the urgency of the symptoms.

COMPOUND SYRUP OF SARSAPARILLA. Take of the roots of Honduras Sarsaparilla, Yellow Parilla, Burdock, and Ground Guaiacum Wood, each, ten ounces, avoirdupois; bark of Sassafras root, Blue Flag root, and Elder flowers, each, eight ounces, avoirdupois. 1. Grind, and mix the articles together; place the whole four pounds in a convenient vessel, cover them with Alcohol of 76 percent, and macerate for two days. Then transfer the whole to a common displacement apparatus or percolator, and gradually add hot water, until two pints have been obtained, which retain and set aside.

2. Then continue the percolation, and of the second solution reserve so much as contains a sensible amount of spirit, and distil or evaporate the alcohol from it.

3. Continue the displacement, by hot water, until the solution obtained is almost tasteless, and boil down this weaker infusion till it begins to thicken, or until, when added to the balance remaining of the second portion, after the evaporation of the alcohol, it will make twelve pints.

4. To these two solutions combined, add Refined Sugar sixteen pounds, and, by heat, dissolve—carefully removing any scum which arises as it comes to the point of boiling. Then, if it exceeds fourteen pints, evaporate the Syrup with constant stirring to this quantity, remove from the fire, and when nearly

cold, add the two pints of tincture first obtained, and make two gallons of syrup. Each pint will contain the virtues of four ounces of the ingredients.

This forms an excellent alterative syrup, and is much used in chronic affections of the liver, rheumatism, syphilis, scrofula, diseases of the skin, ulcers, white swellings, rickets, necrosis, and every taint of the system. Some physicians add Iodide of Potassium half an ounce to every pint of syrup. The dose is a tablespoonful, every three or four hours, in an equal quantity, or more, of water.

COMPOUND SYRUP OF STILLINGIA. Take of Queen's Root, and Turkey-corn, each, one pound; Blue Flag root, Pipsissewa leaves, and Elder flowers, each, half a pound; Prickly Ash berries, and Cardamon seeds, each, four ounces. Proceed to make into a syrup, similar to the directions given for the Compound Syrup of Sarsaparilla, reserving two pints of the strongest tincture, using twelve pounds of Refined Sugar, and making two gallons of syrup.

This syrup is a most powerful and effective alterative, and is successfully used in all syphilitic, scrofulous, osseous, mercurial, glandular, and liver affections, and in all cases where an alterative is required. The dose is from a teaspoonful to a tablespoonful, every three or four hours, in a small quantity of water. Some practioners add Iodide of Potassium half an ounce to every pint of syrup.

Dr. J. Z. Hall, has kindly forwarded me the following formula for the preparation of this syrup by Mr. Glum of St. Louis, Mo., and which he values very highly: Take of Stillingia four pounds, Yellow Dock, and Pipsissewa, each, two pounds, Blue Flag one pound and a half, Coriander, Turkey-corn, Prickly Ash berries, each, one pound, Bloodroot half a pound. Make into a syrup, as above, with refined Sugar thirty-four pounds; making seven gallons when finished.

COMPOUND SYRUP OF YELLOW DOCK. Take of Yellow Dock root two pounds, Bark of the root of False Bittersweet, one pound, American Ivy, (*Ampelopsis Quinq,*) and Root and Herb of Figwort, (*Scroph. Mariland.*), each, half a pound.

Proceed to make into a syrup, similar to the directions given for the Compound Syrup of Sarsaparilla, reserving two pints of the strongest tincture, using sixteen pounds of Refined Sugar, and making two gallons of syrup.

This is an alterative preparation, very efficacious in scrofula, and all chronic tuberculous diseases. The dose is a tablespoonful three or four times a day. Iodide of Potassium is sometimes added to it, half an ounce to every half pint of the syrup.

LEMON SYRUP. To Water one gallon, add Citric Acid half a pound, Ivory Black one pound, and Refined Sugar thirteen pounds. Boil together, filter, and add Oil of Lemon one fluidrachm.

Or, it may be made by adding a drachm of powdered Citric Acid to a pint of simple syrup, and two or three drops of Oil of Lemon.

This forms an agreeable and refrigerant beverage when added to water, or other fluids intended for persons laboring under febrile complaints.

COMPOUND TINCTURE OF ASSAFETIDA. Take of Lupulin, Assafetida, in small pieces, Stramonium seeds bruised, powdered Valerian root, each, half an ounce; Alcohol one pint and a half. Let them stand for two weeks, frequently shaking; then express and filter.

This is anodyne and antispasmodic, and is very useful in all nervous disorders, as epilepsy, St. Vitus' Dance, hysterics, &c. It may be given in teaspoonful doses, repeating them every two or three hours, and may be taken alone, or diluted with water or wine.

COMPOUND TINCTURE OF BLUE COHOSH. Take of powdered Blue Cohosh root one ounce; Water Pepper, Ergot, each, bruised, half an ounce; Oil of Savin two fluidrachms; Alcohol twelve fluidounces. Mix, macerate for fourteen days, and filter.

This forms a useful uterine tonic, and is valuable in suppressed menstruation, painful menstruation, and other func-

tional derangements of the womb. A teaspoonful may be taken two or three times a day.

COMPOUND TINCTURE OF HIGH CRANBERRY. Take of powdered High Cranberry bark one ounce, powdered Lobelia seed, bruised Skunk Cabbage seed, each, half an ounce, bruised Stramonium seed, powdered Bloodroot, and Capsicum, each, two drachms, Alcohol two pints. Macerate for fourteen days, express, and filter.

This is a stimulating antispasmodic, and is useful in all nervous and spasmodic diseases, especially in hysterics, asthma, &c. The dose varies from twenty drops to a teaspoonful, three times a day; or, during the paroxysm, it may be repeated as often as desired.

COMPOUND TINCTURE OF IODINE. Take of Iodine two drachms, Iodide of Potassium four drachms, Alcohol half a pint; mix together.

This tincture may be employed internally, for all the purposes which Iodine is capable of answering. It does not decompose on the addition of water, as is the case with the simple Tincture of Iodine. The dose is six drops every four hours, gradually increased, if necessary, to twenty or thirty.

COMPOUND TINCTURE OF LAVENDER. *Compound Spirits of Lavender.* Take of Oil of Lavender three fluidrachms, Oil of Anise one drachm and a half, Cloves, in powder, one ounce, Mace three drachms, Red Saunders two ounces, Brandy four fluidrachms, Jamaica Rum one gallon. Mix, and macerate for fourteen days, express, and filter through paper.

This makes a much more agreeable compound than the formula usually given, and is equally beneficial. It may be used as an adjuvant and corrigent of other medicines, and as a remedy for gastric uneasiness, nausea, flatulence, hysteria, and general languor or faintness. Dose, from thirty drops to two teaspoonfuls, in a little sweetened water.

COMPOUND TINCTURE OF LOBELIA AND CAPSICUM. *Anti-spasmodic Tincture.* Take of Lobelia, Capsicum, Skunk Cabbage, each, in powder, one ounce, diluted Alcohol

one pint. Mix, macerate for fourteen days, express, and filter through paper.

This is very prompt and efficacious antispasmodic, highly beneficial in cramps, spasms, convulsions, lockjaw, hysteric convulsions during pregnancy, &c. The dose is from half a teaspoonful to a teaspoonful, every ten or twenty minutes, or as often as required. In convulsions and lockjaw, it may be poured into the corner of the mouth, and repeated as often as necessary; generally, the effect is almost instantaneous.

COMPOUND TINCTURE OF MYRRH. *Compound Tincture of Capsicum. Hot Drops.* Take of Myrrh, bruised, four ounces, Capsicum two ounces, Alcohol four pints. Mix, macerate for fourteen days, and filter.

This is sometimes used as an external application in rheumatism, sprains, bruises, cuts, offensive ulcers, &c. Occasionally it is administered internally, in nausea, flatulence, dyspepsia, distress at stomach after eating, &c., in doses of from half a teaspoonful to half a tablespoonful, in some sweetened water.

COMPOUND TINCTURE OF TAMARAC. Take of Tamarac bark, Juniper berries, each, three ounces, Prickly Ash bark two ounces, Wild Cherry bark, Seneca Snake root, each, one ounce and a half, Tansy half an ounce; let these articles be coarsely powdered and mixed together. To the mixture add Whisky one pint and a half, and let them stand twenty-four hours; then place the whole in a vapor displacement apparatus, and force through the articles, the steam or vapor, of additional Whisky one pint, after which, the steam from water sufficient to make the whole amount of tincture equal to twelve pints. To this add Molasses twelve ounces, and six drachms of Alcoholic Extract of Mandrake, which last must be thoroughly dissolved.

This preparation may also be made by adding the above herbs, to Boiling Water nine pints and a half; digest by a gentle heat for twenty-four hours, then add the Molasses and two and a half pints of Whisky,—let them macerate for seven days, express, and strain; and then dissolve in the liquid the Alcoholic Extract of Mandrake.

This is an excellent alterative tonic, aperient, and diuretic; useful in dyspepsia, menstrual obstructions, and other diseases where such a combination of action is indicated. The dose is a tablespoonful, three times a day.

COMPOUND TINCTURE OF VIRGINA SNAKE ROOT. Take of Virginia Snakeroot, Saffron, each, sixteen scruples; Ipecacuanha, Opium, Camphor, each, eight scruples; Diluted Alcohol one pint; mix, macerate for fourteen days, express, and filter through paper. (*H. Whiting.*)

This tincture is a powerful sudorific, and may be used in all cases where a copious perspiration is required, or where it is desired to lessen pain, allay nervous excitability, procure sleep, and keep up a determination to the surface. The dose is from ten to sixty drops, in warm balm, or pennyroyal tea, to be repeated every one, two, or four hours. When it is required to relieve severe pain, as in painful menstruation, cramp in the stomach, &c., or where copious perspiration is desired as in puerperal fever, pleurisy, &c., the doses may be increased to one or two teaspoonfuls.

TINCTURE OF ACONITE ROOT. Take of Aconite root, in powder, eight ounces, Alcohol one pint; mix, let them stand for two weeks, frequently shaking, express and filter.

This tincture may be given in febrile and inflammatory diseases, and in all cases where Aconite is indicated. Three drops may be given every hour or two, in about a teaspoonful of water, and be increased or diminished in quantity and intervals, according to its influence. In large doses it is poisonous.

TINCTURE OF CHLORIDE OF IRON. *Tincture of Muriate of Iron.* Upon Subcarbonate of Iron four ounces in a glass vessel, pour Hydrochloric Acid half a pint, and when effervescence has ceased, apply a gentle heat, and continue it, stirring occasionally, until the Carbonate is dissolved; then filter, and add Alcohol one pint and a half. (*Ed. Phar.*)

This is a chalybeate tonic, diuretic, and astringent. It is useful in scrofula, gleet, old gonorrhea, leucorrhea, dysury depending on spasmodic stricture, passive hemorrhage from the

uterus, kidneys or bladder, and colliquative diarrhea. The dose is from ten to thirty drops, two or three times a day, diluted with a sufficient quantity of water. In doses of from ten to twenty drops in water, and repeated every two hours, it has been found a valuable agent in the treatment of erysipelas, usually effecting a cure in from two to six days, and during the employment of which the only local applications necessary are hair powder and cotton wadding; the bowels to be kept open. Externally it has proved useful in destroying venereal warts; as a styptic and detergent, in cancerous and fungous ulcers; and is one of the best applications that can be applied to a venereal chancre, for which purpose I have successfully used it since the year 1836.

TINCTURE OF CINNAMON. Take of Cinnamon, in powder, one ounce and a half, diluted Alcohol one pint; mix, let them stand for two weeks, frequently stirring; express and filter.

This is an astringent tincture, useful in diarrhea, dysentery, excessive menstruation, and hemorrhage from the womb. Dose, from one to four teaspoonfuls in sweetened water, as often as required.

TINCTURE OF GELSEMINUM. Take of fresh root of Yellow Jessamine, cut in slices, four ounces, diluted Alcohol, or Whisky, one pint; mix, let them stand two weeks; express, filter, and keep in well-stopped bottles.

This tincture possesses the virtues of the root, and is the form in which it is usually given. The dose varies from ten drops to a teaspoonful, every one, two, or four hours, according to its influence, and the circumstances attending each case. Whenever it causes the eye-lids to fall involuntarily, its use must be omitted till the effect wears off.

VOLATILE TINCTURE OF GUAIACUM. (*Dewees.*) Take of Guaiacum, in powder, ten ounces; Carbonate of Soda, or of Potassa forty-five grains; Allspice, in powder, half an ounce; diluted Alcohol one pint. Macerate for seven days, and filter. When to be used, to each fluidounce of the tincture, add fifteen or thirty drops of Aqua Ammonia.

This is used sometimes in painful menstruation, and suppressed menstruation. The dose is a teaspoonful, three times a day, in wine or milk.

VINEGAR OF CANTHARIDES. Take of powdered Cantharides two ounces, Acetic Acid one pint; macerate the Cantharides with the Acid for eight days, occasionally shaking; lastly, express and strain.

This is unfit for internal use, but may be applied externally as an epispastic, or as a rubefacient.

COMPOUND WINE OF COMFREY. Take of Comfrey, Solomon's Seal, Helonias, each, bruised, one ounce; Chamomile flowers, Colombo, Gentian, Sassafras bark, Cardamon seeds, each, bruised, half an ounce. Let these articles macerate for twenty-four hours, in sufficient boiling water to cover them, keeping them closely covered; then add Sherry Wine four pints. Macerate for fourteen days, express and strain.

This is a valuable tonic, especially beneficial in leucorrhea, and all diseases peculiar to females. The dose is from half a fluidrachm to two fluidounces, three or four times a day.

GLOSSARY

OF

TECHNICAL TERMS USED IN THIS WORK.

Abdomen, the belly.
Abdominal Cavity, the cavity of the belly.
Abdominal Rings, See Inguinal Rings.
Abnormal, unhealthy, unnatural.
Abscess, a cavity containing matter.
Absorbents, certain vessels and glands in the system, which absorb or take up substances from within, or externally.
Actual Cautery, cauterization by a red hot iron.
Adipose, fatty.
Adventitious, accidental, foreign.
Alæ Nasi, wings of the nose, nostrils.
Alveolar, from alveus, a cavity; containing cavities or alveoli.
Alveolar Cancer, gelatine or colloid cancer in alveolar form.
Alveolar Cysts, sacs of malignant growths, containing a jelly, or glue-like substance.
Alvine Discharges, from the bowels.
Anæsthesia, suspended sensibility.
Anæsthetic, an agent which causes insensibility.
Anastomose, to unite, as the inosculation of blood-vessels, by which one communicates with another.
Anemia, bloodless; decrease of red corpuscles in the blood.
Anterior, in front.
Antero-posterior, from front to back.
Anus, the fundament.
Aphthæ, white ulcers in the mouth.
Areolar Discoloration, a dark-colored circle, like that around the nipple.

Areolar Cysts, in which the walls of the cyst consist of areolar tissue.

Areolar Tissue, textures composed of cells; cellular tissue.

Atrophy, a morbid decrease or wasting away of a part or parts.

Autopsic, personal inspection; examination after death.

Axillary, pertaining to or in the neighborhood of the axilla or armpit.

Axis of Inferior Strait, an imaginary perpendicular line let fall upon the center of the plane of this strait; the plane lies in the direction given by a line extending from the pubic arch to the end of the os coccyx. *See Fig.* 7.

Axis of Superior Strait, an imaginary perpendicular line let fall upon the center of the plane of this strait; the plane lies in the direction given by a line extending from the upper part of the pubic symphisis to the center of the promontory of the sacrum. *See Fig.* 7.

Bistoury, a small knife used by surgeons, of which there are several kinds.

Borborygmi, rumbling in the bowels from gas.

Brachial, belonging to the arm.

Brachial Plexus, a plexus of nerves which are situated deeply in the axilla of either side, and reach to the side of the neck at its lowest part.

Brygmus, grating or grinding of the teeth.

Capillary, hair-like; a term applied to the small vessels of the surfaces of organs.

Carcinoma, a hard tumor, terminating in a malignant or cancerous ulcer.

Carotid Artery, the great artery passing on each side of the neck up to the head.

Catamenia, the menstrual discharge.

Catarrhal, belonging to catarrh; discharging mucus.

Catheter, a hollow tube for drawing off the urine.

Caudate, with a tail attached.

Cauterize, to act upon with caustic, or with iron heated to whiteness.

Cellular Tissue, tissue composed of cells.

Cerebral, relating or appertaining to the brain.

Cervical Canal, the canal of the neck of the womb.

Cervix Uteri, the neck of the womb.

Chalybeate, containing iron or steel.

Cilia, vibrating hair-like filaments, seen on various surfaces of the body.

Ciliated Epithelium, epithelium containing cilia.

Clonic, spasms, not permanent in their rigidity, but alternating with sudden relaxation.

Coccyx, the lowermost bone of the spinal column.

Cœcum, an intestine open at one end only; called the "blind gut," and which occupies nearly the whole of the right iliac fossa.

Colloid, an unhealthy secretion met with in tumors, resembling glue or jelly.

Congenital, existing from birth.

Congestion, distension of vessels and parts by an accumulation of blood in them.

Connective Tissues, tissues connecting or holding together cells, fibers, &c., to form organic bodies.

Constrictor Vaginæ, small muscles passing from the clitoris along the margins of the vagina, and becoming lost in the perineal and anal muscles; they contract the vaginal orifice.

Contra-indicate, not indicate; opposed to.

Corpuscle, an atom; a minute body or cell.

Crural Arch; at the lower part of the abdomen, on either side, is a firm, tendinous band, stretching from the prominence of the hip-bone to the prominence of the pubis, and which is called Poupart's ligament; under this ligament pass the vessels carrying blood to and from the leg. On account of its situation and form, this is called the crural arch. Females affected with hernia or rupture have a protrusion of the intestines under the arch, in connection with the vessels, and which is termed "femoral hernia."

Crural Artery, the artery of the thigh, or "femoral artery."

Cylindrical Epithelium, also called *columnar*, or *prismatic*, in which the epithelium is cylindrical, conical, or pyramidal.

Cyst, a sac, or bladder.

Debris, remains, ruins, wasted matters.

Dentated, toothed, notched.

Detritus, worn-down substances.

Diagnosis, the determination of a disease by its symptoms.

Diathesis, any particular disposition or habit of constitution.

Dorsum, the back; the posterior portion of any member.

Douche, a dash or jet of water upon any part of the body.

Dyspnœa, oppressed breathing.

Dysury, painful urination.

Ecchymosis, effusion of blood beneath the skin, occasioning a "black and blue" spot.

Eczema, an eruption of minute vesicles close together, like the eruption from heat.

Effusion, pouring out; the pouring out of blood or other fluid into the cavities of the body.

Endo-cervitis, inflammation of the internal surface of the uterine cervix.

Endogenetic, growing from within; enlarging, not from deposits on the outside, but from deposits internally.

Enema, an injection.

Enterocele, an abdominal hernia, or rupture.

Epigastrium, pit of the stomach.

Epiplocele, a hernia or rupture of the omentum, or caul covering the bowels.

Epithelium, a very thin covering upon mucous tissues, as the lips, bladder, vagina, &c., and which is generally met with when removed, in the form of microscopic cells or scales of various shapes.

Erectile Tissue, a peculiar tissue, which is capable of erection, or active turgescence.

Erysipelatous, relating to, or characteristic of, erysipelas.

Escharotic, a caustic; destroyer of the flesh.

Exhibiting a medicine, means giving it to the patient.

Exogenetic, growing from without; enlarging, not from deposits on the inside, but from deposits externally.

Fascia, a bundle; a band; a bandage; certain ligaments.

Feces, the discharges from the bowels.

Fimbriated, fringed.

First Intention, when a wound heals without discharging matter.

Flatulent, windy. *Flatus*, wind or gas in the stomach or bowels.

Follicles, a little bag, sac, or fold, situated in the skin or mucous tissues, from which a fluid is secreted; they are also called *crypts*.

Follicular, belonging to, or containing, follicles.

Formication, a sensation as if ants were creeping on the skin.

Functional Disease, a disease or deranged state of the functions of an organ.

Gangrene, partial death; mortification.

Glutei Muscles, the muscles of the buttocks, three in number; they rotate the thighs outward and inward, and move them apart, &c.

Granular, like small grains.

Granulated, showing granulations.

Granulation, the filling up of a wound or ulcer by small conical, red, fleshy formations or elevations.

Granules, small grains.

Gravid Uterus, the pregnant womb.

Hair-follicles, little sacs, containing the roots of the hair.

Hemorrhage, a flow of blood.

Hypertrophy, an unhealthy enlargement of an organ, without change of structure.

Hypogastrium, Hypogastric, that portion of the abdomen situated between the navel and pubis.

Ichor, a thin, watery, acrid discharge.

Indurated, hardened.

Inferior, below.

Inguinal Glands, glands in the groins.

Inguinal Rings, the rings or apertures in the groin, through which the intestine passes in "inguinal hernia" or rupture.

Integument, that which covers anything; the skin.

Intercostal, situated between the ribs.

Interrupted Suture, a single or separate stitch with the two ends of the ligature or thread tied together.

Ischiatic Notch, or sciatic notch; a large notch on each os innominatum, situated posteriorly and between the posterior inferior spinous process of the ilium and the spine of the ischium; or, on the back part of the lower margin of the hip bone.

Ischiatic Ramus or *Branch*, a branch of bone passing upward from the tuberosity, or bone on which one rests when sitting, to the pubic bone; there is one on each side.

Labia Pudendi, external lips of the female genital organs.

Labium, a lip; pl. *labia*.

Levator Ani, a broad, flat muscle, situated at the inferior portion of the pelvis; it lifts up, or supports the rectum and anus, from its connections with the coccyx.

Ligament, an elastic, tendinous cord.

Ligature, a cord, or thread.

Linea Alba, a white tendinous line along the center of the abdomen, extending from the pit of the stomach to the pubic symphysis.

Lithotomy, an operation for removing stone in the bladder.

Lobule, a very small lobe; a subdivision of a lobe.

Lobate, having lobes; lobed.

Lumbo-sacral, that portion of the spinal column situated below the small of the back, and between the loins.

Mammæ, the breasts.

Mammary, belonging to the breasts.

Median Line, an imaginary line drawn vertically through the center of the body, dividing into two halves, a right, and a left half; also called *mesial line*.

Metacarpal, the bones of the wrist which form the palm of the hand, and externally, its back part; they are five to each hand.

Metastasis, shifting of a disease from one part to another.

Mucous Membranes or *Tissues*, the thin, delicate membrane which lines the mouth, tongue, nose, stomach, bladder, vagina, &c.

Muco-puriform, partaking of the character of both mucus and pus.

Mucus, phlegm; animal mucilage; the discharge from the nose during a cold is mucus.

Nates, the buttocks; posteriors.

Necrological, relating to a history or examination of the dead.

Normal, healthy; natural.

Nucleated, containing nuclei.

Nucleolus, pl., *Nucleoli*, a simple spot or granule within a nucleus.

Nucleus, pl. *Nuclei*, a central spot.

Œdema, a soft swelling which pits on pressure; due to serous effusion into the cellular membrane.

Œdematous, relating to, or characteristic of œdema.

Organic Detritus, worn down particles of organic substances.

Organic Disease, disease of the actual tissue of an organ; see *Functional Disease*.

Os Uteri, the mouth of the womb.

Outlet, the external aperture or entrance to the vagina, is so called; beyond the labia pudendi.

Ovulum, an egg, or human ovule.

Papilla, pl. *Papillæ*, a term applied to the red elevated points seen under the mucous membrane of the tongue, vagina, and other parts, and which are observed more distinctly during certain forms of disease.

Parietes, walls or sides of an organ.

Parturition, labor, giving birth to offspring.

Patulous, spreading loosely; open and flaccid.

Pavement Epithelium, also called *tessellated*, epithelium in which the cells lie in juxtaposition with each other, without overlapping, resembling a pavement.

Pediculated, having a stalk or neck.

Pediculus, pl. *Pediculi*, a louse.

Pediculi Pubis, lice in the hair of the genital organs.

Pelvic Region, about the pelvis.

Pelvis, a large bony basin or cavity at the lower part of the body, containing the womb, vagina, bladder, rectum, &c.

Perineum, the part or space between the anus and the generative organs.

Periosteum, a thin membrane covering the bones.

Peritoneal Cavity, the cavity of the peritoneum, or abdomen.

Peritoneum, a serous membrane, lining the abdomen, and covering most of the several organs contained in it; it is sometimes called the *peritoneal coat* of an organ.

Phagedenic, a corroding or eating ragged ulcer, that spreads rapidly.

Phlebitis, inflammation of one or more veins.

Phlegmonous Inflammation, an inflammation of cellular tissues, with redness, heat, pain, swelling, and a tendency to form matter, as, a common boil or abscess.

Plasma, the generative or formative material in organic bodies.

Plastic Exudation, an effusion of the formative material of the body.

Plethoric, having a superabundance of blood in the system; or, a fulness of the blood-vessels.

Plexus, a term applied to nerves or blood-vessels, when they entwine with one another forming a kind of network; thus, there are plexuses of nerves, and plexuses of blood-vessels.

Plexus Retiformis, or cavernous body of the vagina, is a tissue composed of cells and blood-vessels interlaced together and forming a kind of network on each side of the vaginal entrance; it contracts and diminishes the size of this entrance during sexual congress.

Posterior, behind.

Post-mortem, an examination of the body after death.

Probang, a straight or curved piece of whalebone with a piece of sponge fastened at one end, for the purpose of introducing into cavities, as, the throat, vagina, &c.

Prognosis, art of foretelling how diseases will terminate.

Prone Position, lying in the recumbent position, with the face and anterior part of the body downward.

Prurigo, itching; a papulous eruption of the skin.

Pruritus, itching.

Pubes or *Pubis*, the parts over the pubic bone, generally covered with hair.

Pubic Arch, the arch formed at the lower portion of the pubic bone, immediately above the female meatus urinarius, or entrance into the urethra.

Pubic Bone, the front bone of the lower part of the body, and at the upper part of the external female genitals; it is also called the share bone, or, bar bone.

Puerperal, appertaining to childbirth.

Pyæmia, infection of the blood with pus.

Quill Sutures, interrupted sutures, in which the ligatures, instead of being tied over the surface of the wound, are fastened over two quills, or bougies, &c., one of these lying along each side of the wound.

Racemose, in grape-like clusters.

Rectum, the lower intestine.

Reduction, the reducing or replacing a part in its normal situation.

Resolution, dispersion of a disease; discussion or disappearance of an inflammation.

Revulsive, medicines supposed to remove a disease, by causing a determination from the seat of the disease to some other part.

Rigors, coldness, with shivering; chills.

Sacrum, a triangular bone at the lower part of the backbone; it is about six inches long and four broad.

Sanguineous, bloody.

Scaly Epithelium, in which the epithelial cells resemble scales.

Scybala, hard, roundish lumps in the feces.

Sebaceous, of the character of suet.

Sebaceous Glands, small glands or hollow organs in the skin, which secrete a fatty or sebaceous matter; also called "sebaceous follicles."

Semi-lunar Line, crescentic bands of tendinous matter, an inch or more in width, extending the whole length of the abdomen at distances varying from one to three or four inches from the linea alba; these lines are caused by a blending of the external and internal oblique muscles of the parts.

Septum, pl, *Septa*, a partition.

Sero-purulent, partaking of pus and serum.

Serous Tissues, membranes of the body which secrete serum; they line cavities not externally open.

Serum, the thin, watery part of animal fluids.

Sinapism, a mustard poultice.

Slough, dead matter caused by the application of caustics, mortification, &c.

Sloughing, the removal, or coming away of a slough.

Sphincter, circular or annular muscles which by their contraction close certain openings.

Sphincter Ani, muscles around the anus, which keep this orifice firmly closed.

Spongy Tissue, a tissue of a spongy character, filled with innumerable venous openings, and composed of a fine meshwork of fibers, epithelium, connective tissue, &c.; this tissue is found in several parts of the body.

Squamose, or *Squamous*, like scales; having scales.

Stroma, the bed, or base-texture of an organ.

Strumous, scrofulous.

Stupe, cloths dipped in liquids, and applied the same as fomentations, are called stupes.

Subclavian Arteries, arteries at the sides and lower portion of the neck, and at the upper part of the chest, under the collar bone; they send arterial blood to the arms.

Subcutaneous, under the skin.

Superior, above, or uppermost.

Sutures, stitches taken in sewing up a wound; the union of bones by a kind of saw-like process on their edges, giving to them somewhat of a dove-tailed appearance.

Sympathetic, when one organ which is healthy is affected or deranged in its functions or condition by the reaction of a diseased organ, it is termed "a sympathetic affection," as, for instance, when headache occurs from an acid state of the stomach.

Syphilis, the venereal disease.

Syphilitic, belonging to syphilis.

Tampon, a plug; as the use of pieces of linen or cotton to plug up the vagina.

Tenaculum, a slender, sharp hook, fastened to a handle, for the purpose of holding parts, drawing out arteries, &c., through the tissues of which it is thrust.

Tenesmus, a frequent, ineffectual, and painful symptom, urging one to go to stool.

Tenotome, a small instrument designed to pass through the skin, and divide tendons, without causing a larger aperture in the skin than that necessary for its passage through.

Tessellated Epithelium, see Pavement Epithelium. Checkered, or mosaic-like epithelium.

Thoracic, belonging to the chest.

Thyroid Gland, gland lying before the windpipe, and which is the seat of bronchocele.

Tormina, griping pain.

Torsion, twisting.

Transversalis Perinæi, a muscle of the perineum which supports the uterus, vagina, bladder, and perineum, by its connections with the pelvic bones, laterally and above.

Tumefaction, a transient swelling.

Umbilicus, the navel.

Umbilical Ring, a fibrous ring passing around the orifice of the navel; the umbilical hernia of children is owing to a protrusion of intestine through this ring.

Ureters, long, cylindrical canals extending from the kidneys to the bladder, and through which the urine passes from the former into the latter organ.

Urethra, the canal through which the urine is discharged from the bladder.

Uterus, the womb.

Vagina, the passage from the womb to the external parts.

Vaginal, belonging to the vagina.

Varix, pl. *Varices*, a morbid dilatation or enlargement of a vein, in which the vein presents soft, knotty, and purplish tumors.

Vascular, supplied with vessels, as nerves, blood, &c.

Verucca, pl. *Veruccæ*, a wart.

Vesico-vaginal Septum, the walls or fleshy partition between the bladder and the vagina.

Vesicular, consisting of small cells or bladders; also applied to a sound heard in breathing, when the air passes through the air-cells of the lungs.

Villii, soft papillæ, containing absorbents, nerves, and blood-vessels.

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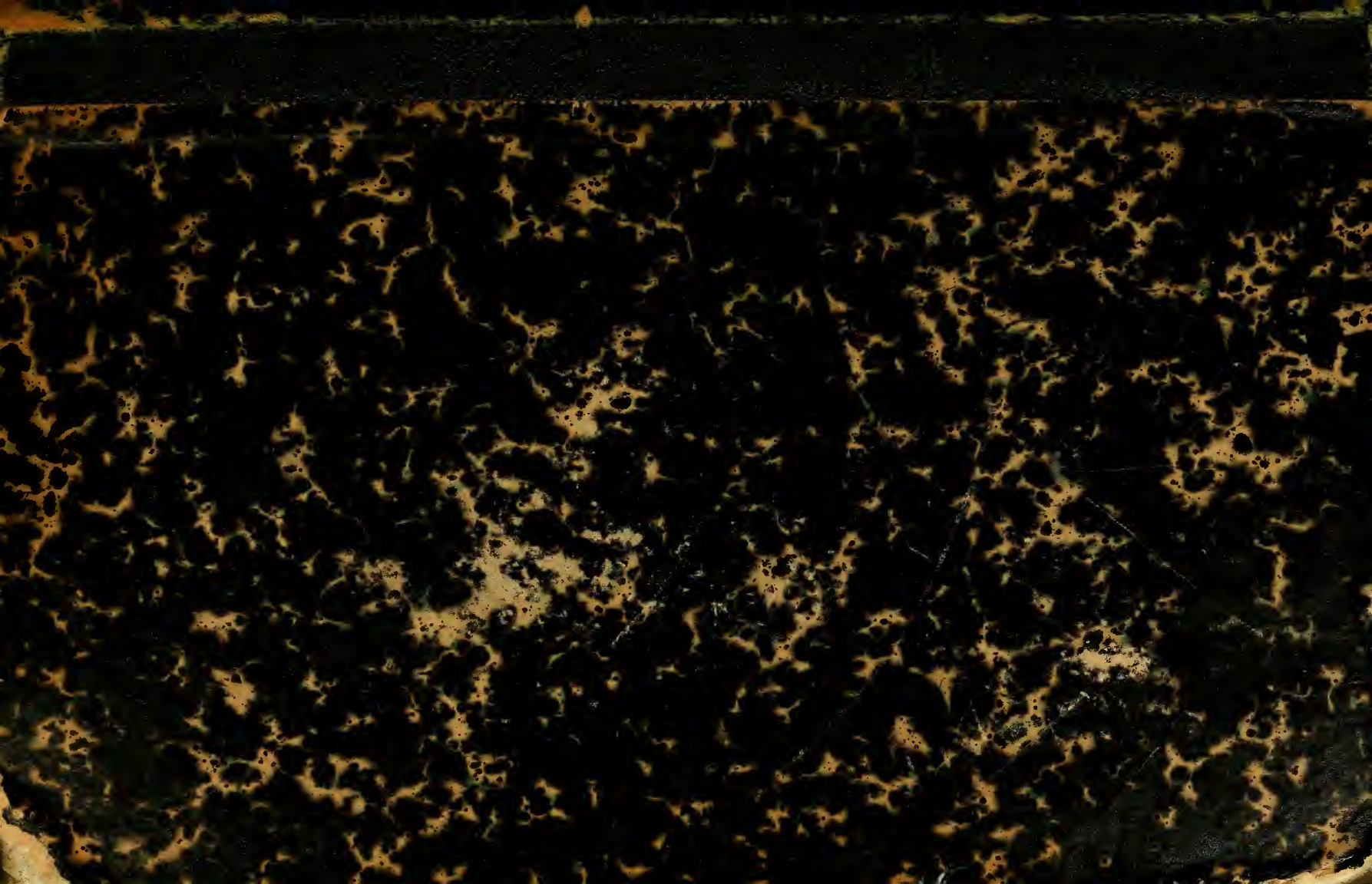
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